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1980 Bay Area Water Quality Management Plan Amendments

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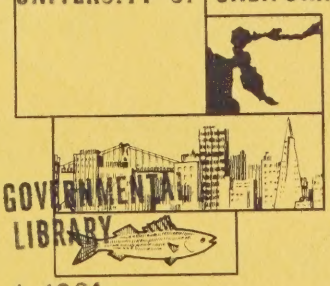
SAN FRANCISCO BAY AREA ENVIRONMENTAL MANAGEMENT PLAN



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This plan was prepared by the Association of Bay Area Governments with a grant and other assistance from the Environmental Protection Agency, in cooperation with the San Francisco Bay Regional Water Quality Control Board; the Council of Bay Area Resource Conservation Districts; and the Counties of the Bay Area.

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ASSOCIATION OF BAY AREA GOVERNMENTS
EXECUTIVE BOARD RESOLUTION NO. 5-80
AMENDING CHAPTER III (WATER QUALITY MANAGEMENT) OF THE
ENVIRONMENTAL MANAGEMENT PLAN

WHEREAS, the General Assembly of the Association adopted the Environmental Management Plan by Resolution 2-78 on June 10, 1978; and

WHEREAS, the General Assembly has delegated to the Executive Board responsibility for amending the Environmental Management Plan between meetings of the General Assembly to fulfill contractual obligations or any duties imposed on ABAG under Article 5.5 of the Government Code; and

WHEREAS, the Regional Planning Committee during the past year has guided the development of amendments to the water quality management portions of the Environmental Management Plan; and

WHEREAS, the staff of the Association, after extensive discussion by technical advisory committees and the Bay Area Citizens Advisory Committee on Water Quality, has prepared, for public review and comment, drafted water quality plan amendments; and

WHEREAS, the Bay Area Citizens Advisory Committee on Water Quality has reported its recommendations to the Regional Planning Committee; and

WHEREAS, public hearings on the proposed water quality plan amendments were conducted on May 15, June 19 and July 17; and

WHEREAS, the Regional Planning Committee considered all public comments received prior to its meeting on June 9; and

WHEREAS, as a result of public comments the Regional Planning Committee has recommended approval of revised amendments to the water quality management plan; and

WHEREAS, an Environmental Impact Report on the water quality management plan amendments has been completed in compliance with the California Environmental Quality Act and State EIR Guidelines;

NOW THEREFORE BE IT RESOLVED that Table 5 of Chapter III of the Environmental Management Plan be revised to add Actions 1.6, 5.3, 5.4, 5.5, 5.6, 8.3, 8.4, 8.5, 8.6, 8.7, 12.8 and 12.9 and accompanying information; and

BE IT FURTHER RESOLVED that Table 5.1, identifying rural and urban fringe watershed problem areas, be added to Chapter III of the Environmental Management Plan; and

BE IT FURTHER RESOLVED that the text of the 1980 Bay Area Water Quality

Management Plan be transmitted to the Governor of the State of California for certification and submission to the Environmental Protection Agency as explanatory material.

The foregoing resolution was approved by the Executive Board this 17th day of July, 1980.

Signed:

Susanne Wilson

Susanne Wilson
President

Attest:

Revan A.F. Tranter

Revan A.F. Tranter
Secretary-Treasurer

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I. INTRODUCTION

This document updates the water quality management chapter of the Environmental Management Plan (EMP) for the San Francisco Bay Region. The EMP was adopted by the General Assembly of the Association of Bay Area Governments in June 1978. During 1979-80, under the direction of the ABAG Regional Planning Committee, amendments to the initial plan were prepared and circulated for public review in the region. The Water Quality Management Plan was amended by the General Assembly in November 1979 to update the 20-year list of municipal facilities needs, and by the Executive Board in July 1980 to cover other water quality plan amendments. The 1980 plan amendments were circulated for public review by Bay Area cities, counties, public agencies and interested groups and persons in May 1980. Written and public testimony was received at public hearings conducted May 15, June 19 and July 17. The 1980 amendments to the Water Quality Management Plan were approved by the Executive Board, acting for the General Assembly, on July 17.

Why is this document being prepared? The answer is simply that serious water quality problems still exist in the region:

- Intermittent pollution due to poorly treated or dispersed municipal and industrial wastewater discharges.
- Siltation and smothering of streams and lakes by excessive soil erosion.
- Bacterial and possible viral contamination of beaches and shellfish.
- Frequent spills of toxic or highly polluting chemicals to streams, lakes and the Bay.
- Subtle and poorly understood adverse impacts on aquatic life, probably caused by any of a number of toxic materials discharged to the Bay.
- Potential and unquantified changes in our Bay-Delta system that may occur as a result of statewide projects affecting the region, such as the proposed Peripheral Canal, upstream diversions from freshwater inflow to San Francisco Bay, and agricultural wastewater discharges from the proposed San Joaquin Valley agricultural drain.

The current plan actions do not address all of the known problems. Limited resources and the immense scope of some problems place them outside the reach of quick resolution in a one or two-year program. Certain problems were addressed in the adopted water quality portions of the Environmental Management Plan. Others are dealt with in the current round of recommendations, and the balance will be tackled in future programs either by ABAG, cities and counties, or State agencies.

The following chapters of this document contain a brief review of the water quality portions of the Environmental Management Plan, an update of water quality problems investigated during the 1979-80 program, new policy actions to the EMP, environmental impact assessment of the new actions, and public comments and staff responses to these actions. The document is formally a supplement to Chapter III (Water Quality Management) of the initial EMP of June 1978.

II. THE ENVIRONMENTAL MANAGEMENT PLAN

The initial Environmental Management Plan was prepared with assistance from the San Francisco Bay Regional Water Quality Control Board (RWQCB), the Bay Area Air Quality Management District, the Metropolitan Transportation Commission and the region's nine counties. Preparation of the initial plan was guided by a 46-member Environmental Management Task Force (EMTF), a policy advisory body to the ABAG Regional Planning Committee and Executive Board. The plan presented a series of actions that showed how the region could solve air, water and solid waste problems in the Bay Area, and meet key Federal and State standards.

THE WATER QUALITY MANAGEMENT PLAN

The water quality portions of the EMP are collectively referred to as the Water Quality Management Plan (WQMP) for the San Francisco Bay Area. They were prepared to meet the requirements of the Federal Water Pollution Control Act Amendments of 1972 and 1977.

The WQMP was conditionally certified by the State Water Resources Control Board acting for the Governor in September 1978, and conditionally approved by the Environmental Protection Agency (EPA) in February 1979. Although ABAG has submitted documentation to the State and EPA demonstrating fulfillment of the imposed conditions, the two agencies have not acted to acknowledge completion of the WQMP.

Federal regulations require that a significant number of water quality management agencies listed in the EMP indicate their willingness to implement those actions for which they are identified as implementing agencies. To date, ABAG has received such commitments from:

- o 8 of 9 Bay Area counties, excluding Napa;
- o 73 of the 84 cities within the water quality planning boundary;
- o special district implementing agencies, and;
- o state-level implementing agencies.

The WQMP addresses water quality problems in the Bay Area in four major areas of concern. These are:

1) actions dealing with receiving water and health of the ecosystem;

2) actions directed at municipal and industrial point sources of wastewater discharge;

3) surface runoff pollution control activities; and

4) miscellaneous pollution sources such as septic tanks, vessel wastes and chemical spills.

The WQMP identifies specific policies and actions which would greatly alleviate, if not eliminate, water pollutants and pollution-related problems in the Bay Area. Table II-1 lists the policies and actions in the currently approved WQMP. This table is provided for quick reference to the existing WQMP, to help place the adopted 1980 actions in context.

TABLE II-1. CURRENT ACTIONS IN THE SAN FRANCISCO BAY AREA WATER QUALITY MANAGEMENT PLAN

Policy 1: Improve Understanding of Bay-Delta Estuarine System and the the Fate and Effects of Pollutants Entering It

- Action 1.1 - Establish San Francisco Bay Delta Research Advisory Council
- Action 1.2 - Conduct receiving water monitoring program for San Francisco Bay
- Action 1.3 - Evaluate and establish research goals
- Action 1.4 - Disseminate through the media and other sources an annual "State of the Waters" report
- Action 1.5 - Integrate water quality data with existing regionwide data management system

Policy 2: Establish Continuing Planning Process for Water Quality Management

Policy 3: Facilitate the Re-Establishment of Recreational and Commercial Shellfish Harvesting in the Bay as Allowed by Water Quality

- Action 3.1 - Conduct a preliminary survey and assessment of shellfish beds in the Bay
- Action 3.2 - Establish a systematic monitoring and sampling program of selected shellfish beds
- Action 3.3 - Establish an agreement between State Dept. of Health and Dept. of Fish and Game for patrolling shellfish beds
- Action 3.4 - Establish criteria for commercial shellfishing in the Bay and evaluate methods of harvesting

Policy 4: Ensure that Water Pollution Facilities or Measures Effectively Protect Water Quality

- Action 4.1 - Issue and update monitoring requirements appropriate to permit conditions and in conformance with regionwide monitoring network
- Action 4.2 - Monitor performance of municipal and industrial wastewater systems in accordance with monitoring requirements
- Action 4.3 - Publish annual report summarizing results of dischargers self-monitoring programs

Policy 5: Provide Facilities Needed for Municipal Sewerage Service and Water Quality Protection

Action 5.1 - Expand capacity of existing facilities and provide new facilities for municipal sewage collection, treatment and disposal according to the 20-year project list. Level of treatment to depend on State and Federal regulations

Action 5.2 - Issue and update limits for municipal discharges in conformance with EMP

Policy 6: Encourage Consolidation of Treatment Facilities and Discharge of Wastewater to Well-Mixed Receiving Waters Where Economically Justified and Environmentally Feasible

Action 6.1 - Review all proposed facilities for consistency with above policy

Policy 7: Accelerate Programs Toward Reclamation and Reuse of Wastewaters

Policy 8: Establish a Program of Surface Runoff Controls that Emphasize Low Cost Measures to Reduce the Pollutant Load From This Source

Action 8.1 - Implement county surface runoff plans (Appendix C volume), after adoption by the cities and county within each county

Action 8.2 - Conduct regional aspects of surface runoff programs

Policy 9: Provide Facilities Needed for Industrial Wastewater Treatment and Disposal and Water Quality Protection

Action 9.1 - Expand existing and provide new facilities for treatment and disposal of industrial wastes discharged directly to receiving waters

Action 9.2 - Issue and update permits for direct industrial discharges

Action 9.3 - Expand existing and provide new facilities for pretreatment of industrial wastewaters discharged to municipal sewer systems

Action 9.4 - Issue and update permits for industrial discharges to municipal sewer systems

Policy 10: Reduce Sewage Pollution from Vessels, Including Houseboats, in the Bay-Delta System

Action 10.1 - Improve monitoring and documentation of vessel waste pollution
Action 10.2 - conduct public hearing(s) and establish discharge prohibition as appropriate
Action 10.3 - Inform boating public of marine sanitation device programs
Action 10.4 - All marinas and harbors to provide vessel holding tank pump-out facilities
Action 10.5 - All marinas and harbors to provide on-shore toilet facilities
Action 10.6 - Revise DNOD's loans and grants programs to fund pumpout facilities and on-shore toilets

Policy 11: Improve Wastewater Disposal Practices in Unswered Areas

Action 11.1 - Establish minimum regionwide standards for on-site disposal systems
Action 11.2 - Inspect periodically new on-site wastewater disposal systems, including septic tanks, and establish procedures to ensure proper maintenance
Action 11.3 - Establish procedure for inspection and maintenance of existing on-site systems where appropriate
Action 11.4 - Where on-site systems are inappropriate--install sewerage system
Action 11.5 - Promote research of on-site disposal systems
Action 11.6 - Revise State grant programs to ensure consideration for funding on-site systems

Policy 12: Monitor Effectiveness of Existing Arrangements for Preventing and Dealing with Oil and Chemical Spills in Bay Area

Action 12.1 - Monitor the implementation of new hazardous substances regulation
Action 12.2 - Establish a task force to investigate non-petroleum hazardous chemical spill problems in offshore waters, bays and estuaries of California, and make recommendations
Action 12.3 - Investigate cleanup and preventive measures for inland spills of all potentially hazardous or toxic chemicals in the Bay Area and make recommendations for improvement
Action 12.4 - Develop local roadway and railbed spill containment and cleanup capabilities
Action 12.5 - reevaluate need to upgrade vessel traffic system in Carquinez Strait and N. San Pablo Bay
Action 12.6 Unless preempted by Federal law, enact State Legislation to increase liability of spillers and compensate for oil spill damage
Action 12.7 - Promulgate final Federal regulations proposing improvements in requirements for navigational aids and tanker construction

CURRENT ACTION IN THE SAN FRANCISCO BAY AREA

WATER SUPPLY MANAGEMENT PLAN RECOMMENDATIONS

Policy 1: Provide a Safe and Reliable Water Supply to All Citizens at a Minimum Monetary and Environmental Cost

Action 1.1 - Establish water resource management coordinating committee (WMCC)

Policy 3: Encourage Safe and Cost-Effective Wastewater Reclamation

Action 3.1 - Conduct regional reclamation study
Action 3.2 - Construct cost-effective wastewater reclamation projects
Action 3.3 - Expedite studies and standard setting for use of reclaimed wastewater for recharge and other purposes

CURRENT ACTION IN THE SAN FRANCISCO BAY AREA

SOLID WASTE MANAGEMENT PLAN

Policy 4: All Solid Waste Disposal Sites Must be Situated, Designed, Operated, and Eventually Closed Down in a Proper Manner to Provide Protection to the Surface and Ground Water Quality and the Natural Environment As Well As Protection of Public Health and Safety

Action 4.1 - Accelerate the adoption and updating of the Waste Discharge Requirements

Policy 11: Adequate Planning for Hazardous Waste Management Requires Accurate Data

Action 11.3 - Determine whether there is a need for additional Class I site capacity

Policy 12: Hazardous Industrial Waste Reduction, Source Separation, and Recovery Should Be Promoted in the Interest of Limiting Land Disposal

Action 12.1 - Encourage Hazardous waste reduction
Action 12.2 - Encourage hazardous waste source separation
Action 12.4 - Investigate the consolidation of hazardous wastes for processing

Policy 13: Regulations should Ensure Safe and Proper Handling of Hazardous Wastes

Action 13.4 - Improve procedures for preventing and handling spills of hazardous wastes

Action 13.6 - Establish and enforce regulations for on-site disposal of hazardous wastes

Policy 15: The Regional Wastewater Solids Study Recommendations, When Completed, Should be Integrated into Local and Regional Solid Waste Management Plans

Action 15.1 - Complete the regional wastewater solids management plan

Action 15.2 - Integrate the Wastewater Solids Study recommendation into regional and local solid waste management plans

Policy 16: Facilities Planning, Design, and Construction for Wastewater Solids Management Should Be Accomplished by Local Wastewater Management Agencies in Conformance With the County Solid Waste Management Plans, the Environmental Management Plan (208 Plan), and Federal and State Requirements

Action 16.1 - Develop facilities plans (Step 1)

Action 16.2 - Review proposed facilities plans

Action 16.3 - Design wastewater solids management facilities (Step 2)

Action 16.4 - Construct wastewater solids management facilities (Step 3)

PLAN IMPLEMENTATION

Policy 2: Federal and State Governments Should Make Legislative and Administrative Changes to Carry Out Environmental Management Plan Recommendations, As Necessary

Action 2.1 - Provide additional funding for the California Dept. of Health to establish and carry out regulations for commercial and recreational shellfish harvesting in San Francisco Bay

Action 2.2 - Enact legislation to require existing marinas and harbors to provide on-shore toilet facilities

Action 2.3 - Unless preempted by Federal law, enact legislation on liability requirements and compensation to minimize water pollution from oil spills

Action 2.4 - Provide necessary funding for local government agencies to carry out regulations and programs outlined in this plan

Policy 3: Plan Implementation Should Be Ensured Through the Timely and Appropriate Completion of Management Agreements as Required By Federal Regulations

Action 3.1 - Obtain management agreements to implement the policies and actions of appropriate portions of the Environmental Management Plan

III. WATER QUALITY PROBLEMS AND HIGHLIGHTS OF RECOMMENDATIONS

BACKGROUND

Previous studies have identified various water quality problems in the Bay Area. These problems, found in local streams, lakes, reservoirs and the Bay itself, encompass a wide range of pollutants produced by our society. The most apparent have been:

- o Sedimentation: Soil erosion into drainage courses has led to turbidity and deposition of sediments, clogging storm sewers, stream channels, lakes and reservoirs.

- o Bacterial and viral contamination: High bacterial counts, indicating fecal contamination, limit water contact recreation opportunities and severely impair shellfish harvesting.

- o Heavy metals: Heavy (toxic) metals have been found in Bay waters, sediments, shellfish and fish.

- o Pesticides: Pesticides enter the Bay Area from the Central Valley and local runoff; a documented impact of this has been the thinning of eggshells among wild birds.

- o Oil and grease: Petroleum hydrocarbons, many of which are toxic or carcinogenic, have been reported in the food chain of the Bay Area ecosystem and found in all urban runoff.

- o Nutrients: Nutrients cause algal blooms with clogging of waters, reduction of oxygen, and foul odors; these problems have been most pronounced in the Bay and local lakes.

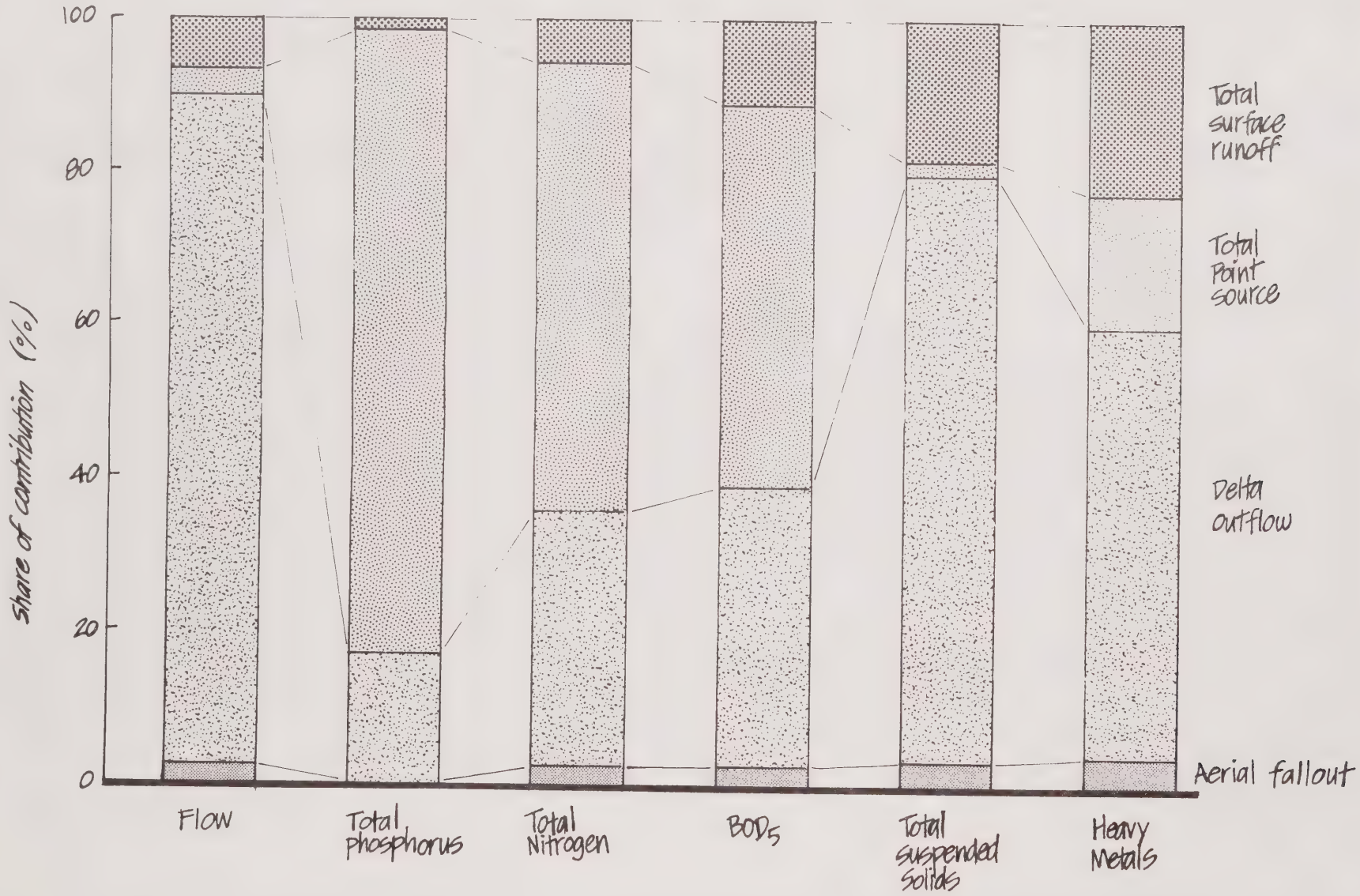
- o Litter and debris: Littering of Bay Area waters reduces aesthetic enjoyment and makes recreational uses undesirable.

- o Oxygen depletion: Caused by the decomposition of organic wastes, this historical problem occurs when raw or primary treated wastewater are discharged to the Bay. With most treatment plants producing a higher quality effluent this is less of a problem today in the Bay. (The fragile nature of this protection is evidenced by the recent failure at the San Jose wastewater treatment facility which caused a severe oxygen depletion problem in the South Bay.)

Figure III-1 shows the relative contributions of various sources to the pollutants entering Bay waters. Except for rainfall or aerial fallout, most sources do not generate pollutants in proportion to their flow. Surface runoff is relatively high in oxygen-consuming matter (BOD), suspended solids, and heavy metals. Municipal and industrial point sources disproportionately contribute phosphorus, nitrogen, BOD and heavy metals.

Figure III - 1.

Freshwater and Pollutant Contributions to San Francisco Bay Area Surface Waters in 1978



On Table III-1 the contribution of surface runoff from urban areas to the total pollutant loading to San Francisco Bay is expressed on an annual basis. However, this approach understates the significance of urban runoff. The urban loading is not uniformly distributed over the calendar year but occurs almost wholly during the rainy season. Thus, during the wet half of the year, the relative contribution of pollutants from urban runoff is much greater. Neglecting non-local pollutant sources, most notably the Sacramento-San Joaquin Delta outflow, 60% of the equivalent heavy metal loading to the Bay comes from urban surface runoff during the rainy season. Likewise in the wet season, 44% of the oil and grease and 32% of the BOD5 are attributable to urban runoff. Even from this perspective, urban runoff is not the major source of suspend solids or total nitrogen during the wet season--9% of each; and only 2% of the local total phosphorus input to the Bay comes from urban runoff during the wet season. Clearly heavy metals, oil and grease, bacteria, and BOD5 are the pollutants for which urban surface runoff has been identified as a major source.

The fate of pollutants entering the receiving waters varies widely. Delta outflow, with its large emissions of most pollutants, generally discharges directly through the Bay into the ocean. Surface runoff directly impacts inland streams, lakes and reservoirs, which never experience Delta outflow. Finally, most point sources discharge along the periphery of the Bay Area counties and, with some exceptions, do not have significant impact on inland waters. Some problems do arise when sewers breakdown or overflow and wastewater enters the surface waters. Table III-1 presents the calculated and reported pollutant mass emission rates from these sources during 1978.

CURRENT STUDIES

The 1979-80 water quality planning program has emphasized only a number of the pollution sources affecting Bay Area waters. This concentrated effort was intended to more rapidly develop solutions to certain problems and also recognized that many other problems were being addressed through implementation of actions in the EMP. Current studies have focused on:

- o Extra-regional proposals affecting Bay Area waters
- o Municipal wastewater treatment needs
- o Surface runoff pollution
- o Chemical spills

These problem areas and the highlights of proposed actions for their resolution are discussed in the balance of this chapter.

PROJECTS AFFECTING BAY-DELTA WATER QUALITY

Water supply, agricultural use and commerce are the three main areas with proposed projects that could affect Bay-Delta water quality. While these projects provide significant economic and social benefits, they

TABLE III-1. ANNUAL FRESHWATER AND POLLUTANTS ENTERING THE BAY IN 1978

Parameter[a] \ Source	Municipal	Industrial	Total Point Source	Street Surface	Open Area	Other	Total Surface Runoff	Delta	Aerial Fallout	Total Bay Input
Flow	726 (192)	70 (19)	796 (210)	163 (43)	1109 (293)	167 (44)	1439 (380)	18777 (4960)	-757 (-200)	20255 (5350)
BOD_5	52 (115)	3.0 (7)	55 (122)	3.2 (7)	3.2 (7)	3.9 (8.5)	10 (23)	24 (52)	2.3 (5)	91 (202)
Total Suspended Solids	36 (80)	8.7 (19)	45 (100)	27 (59)	417 (921)	27 (60)	471 (1040)	1972 (4350)	79 (175)	2568 (5665)
Total Nitrogen	22 (49)	0.6 (1.4)	23 (50)	0.5 (1)	0.9 (2)	0.9 (2)	2.3 (5)	13 (28)	0.9 (2)	39 (85)
Total Phosphorus	11 (23)	0.04 (0.1)	11 (23)	0.05 (0.1)	0.1 (0.2)	0.1 (0.2)	0.2 (0.5)	2.3 (5)	0 (0)	13 (29)
Heavy Metals[b]	0.4 (0.8)	0 (0)	0.4 (0.8)	0.6 (1.3)	0.7 (1.5)	0.5 (1)	1.7 (3.8)	2.9 (6.5)	0.2 (0.5)	5.3 (12)

[a] Flow in millions of cubic meters per year (billions of gallons per year)

other constituents are in millions of kilograms per year (millions of pounds per year)

[b] Total equivalent heavy metals expressed as chronic toxicity equivalent of chromium.

often raise environmental concerns over potential salinity changes in the Bay-Delta system and its repercussions on the aquatic environment, fisheries, and recreation.

The Peripheral Canal Project contemplates the bypass of major portions of Sacramento River flows around the Delta directly into the aqueducts and canals feeding the San Joaquin Valley and Southern California. Some canal water would be released along the eastern Delta periphery to redistribute a portion of the Deta freshwater inflow. Serious concerns have been raised by Bay Area Cities and counties over the project, which provides immense benefits to the San Joaquin Valley and Southern California at the expense of the natural Bay-Delta system. Concerns have been raised over the potential for extensive saltwater intrusion into the Delta that could damage farming, drinking water quality, and the integrity of the estuarine environment.

The San Joaquin Valley Interagency Drainage Program proposes the extension of the San Luis Drain which collects brackish groundwater from subsurface agricultural drainage systems. Lack of disposal capability now constrains installation of the necessary subsurface drainage systems and could lead to a loss in agricultural productivity. The drainage canal would follow the San Joaquin Valley trough and discharge to Suisun Bay near Chipps Island. Drainage marshes and holding ponds would provide 51,000 acres of wildlife habitat. Bay Area cities and counties have expressed concern over becoming the recipients of brackish nutrient-laden waters with trace amounts of metals and pesticide contaminants. Questions have been raised about whether the drain waters can become sufficiently diluted to reduce potential salinity increases, algal blooms and effects on drinking water quality.

The Regional Reclamation Study for the San Francisco Bay is exploring alternatives for reuse/disposal of reclaimed wastewater. One of the prominent alternatives involves conveying the reclaimed water to the Delta as a salt barrier. An analysis of the full impacts to the receiving water has not been completed.

Dredging projects are currently proposed for the Baldwin and Sacramento Ship channels. Increased channel depths would accommodate larger ships and greater transport volumes of bulk products and maintain future economic growth in the Sacramento and Stockton areas. The increased channel depths have raised concerns over the increased potential for saltwater intrusion and problems with disposal of dredge spoils. One possible mitigation measure is the consturction of a 15-foot rock sill at the bottom of the Carquinez Strait to deter the upstream movement of saltwater along the bottom of Suisun Bay and the Sacramento River. The effectiveness of an underwater sill and its potential ecological impacts are also of concern to the Bay Area.

RECOMMENDATION TO ESTABLISH POLICY POSITIONS

Under this new action, ABAG would evaluate projects and programs that could affect water quality and ecosystems in the Bay-Delta estuarine system. Types of projects that would be evaluated range from the export of freshwater from the Delta system, drainage and discharge of salt-laden waters into the Delta, injection of reclaimed wastewater into the Delta water table to repel salinity, and channel dredging that could increase upstream salt water intrusion and others. Where significant impacts could occur that would affect the Bay region, ABAG would prepare a position in support of or in opposition to particular projects and provide testimony at hearings and legislative committees.

POINT SOURCE NEEDS AND PLANNING PROBLEMS

Municipal and industrial wastewater treatment facilities represent one of the largest capital expenditure programs in the country and certainly the largest in water quality protection. Construction expenditures in the Bay Area have been running over $25 million annually. The municipal facilities constructed as part of the Section 201 Grant Program have produced the greatest improvements in Bay water quality, substantially increasing dissolved oxygen levels and reducing bacterial pollution.

The mechanism by which grant monies from the Federal government are allocated for the construction of wastewater facilities is by the 20-year need list, prepared as part of the Water Quality Management Plan. Such a list must be consistent with regional growth projections and the policies of the approved WQMP. Projects on the list prepared by ABAG are eligible for funding and projects not on the list are ineligible. The most recently adopted list contained in the EMP was approved by ABAG in late 1979 and is included in this document. The State, through the RWQCB, has been preparing a 5-year funding priority list in its role as the administrator of grant monies on behalf of EPA. A tremendous effort has been expended annually on the part of both agencies to review each other's list and reconcile list differences. Wastewater dischargers have had the additional inconvenience of providing planning information and updates to both agencies. In short, the current system, while required by law and regulation, has been fraught with some confusion and definite inefficiency.

An additional element of wastewater facilities planning that has been largely overlooked affects both wastewater facilities and surface runoff facilities. The element deals with recreational opportunities and its analysis is mandated by the Clean Water Act. Frequently, wastewater facilities have been located on land with prime recreation potential, yet have not accommodated that potential in their design. Since the single largest cost for recreation facilities is land acquisition, it is essential that all dual use capabilities of pollution control facilities be thoroughly explored.

RECOMMENDATIONS FOR POINT SOURCE PLANNING

The amendments under Policy 5 would simplify the point source control planning process and could improve local government services to citizens. In the area of point source control planning, it is recommended that the RWQCB prepare a single, 20-year needs and funding priority list. ABAG would review this list for consistency with the WQMP and regional growth projections. Subsequently the list could be adopted into the WQMP. Use of this process would greatly simplify the respective agency roles, reduce duplication and still satisfy requirements of the Clean Water Act.

Additional recommendations to Policy 5 would add an analysis of potential recreational benefits to be achieved from pollution control facility construction or expansion. Opportunities would arise for bicycle paths, playgrounds, shoreline access or even uses of reclaimed water. The proposed actions would enable local governments to expand recreational facilities while still achieving the primary benefits of water pollution control.

SURFACE RUNOFF PROBLEMS

Although erosion and sedimentation is the principal surface runoff problem in the Bay Area, other non-point source problems also exist whose impacts can be quite serious. Urban runoff is generally low in sediments but contributes significant amounts of oils, grease, heavy metals, nutrients, litter and bacteria. Rural drainage can add nutrients, pesticides, herbicides and salts in addition to sediments.

The problems vary significantly from area to area and solutions need to be tailored to specific situations. The EMP contains county plans developed to respond to the unique conditions of each county. To date, the effective widespread implementation has been hampered by lack of understanding of water pollution problem impacts. Also, little information has been available on costs and benefits of control measures. These impediments are being partially addressed by demonstration projects of the National Urban Runoff Program. Such a project has been funded in the Castro Valley of Alameda County for an investigation of different modes of street sweeping to benefit water quality.

SURFACE RUNOFF RECOMMENDATIONS

During preparation of the Manual of Specifications for Surface Runoff Control Measures a number of public works practices were investigated for their potential to reduce water pollution. These practices are normally conducted by city or county public works departments for reasons such as aesthetics, flood control or public health. They offer local governments a means for reducing urban runoff pollution through modification of practices with little or no increase in expenditures.

As an example, substantial improvements in street sweeping benefits can be obtained by concentrating on winter sweeping programs. By sweeping more in the winter, when rains could otherwise wash street solids into receiving waters, and less in summer, when washoff occurs infrequently, more solids can be saved from washoff at substantially less cost than typical programs. Other public works practices beneficial to water quality include litter collection, catch basin cleaning and leaf collection.

EROSION RELATED PROBLEMS

Erosion of soil and sedimentation into surface waters is the single most serious surface runoff problem in the Bay Area. Erosion leads to: turbidity of water and deposition of sediments; clogged storm sewers and stream channels; reduced lake and reservoir capacities; significant portions of nutrient loadings to Bay Area waters. It also may result in severely impacted aquatic life.

Although erosion and sedimentation are natural processes, they are greatly accelerated by man's activities such as construction, mining, agricultural practices, recreation and accidental wildfires. The nine Bay Area counties produce as much as 9.4 million cubic yards per year of water-borne sedimen. It is estimated that up to 3.1 million cubic yards are deposited in lakes and reservoirs throughout the area, 3.5 million cubic yards are deposited in streams and channels, and 2.8 million cubic yards ultimately wash into the Bay. This is in addition to the 8 million cubic yards of sediment carried in by the Sacramento and San Joaquin Rivers.

Depending upon location, uncontrolled construction activities increase erosion from 10 to 2000 times natural processes. Increases of 15 to 20 times have commonly been reported in the Bay Area.

Erosion and sedimentation is one of the few surface runoff problems which have partially quantifiable economic impacts. Within every county, hundred of thousands to millions of dollars are being spent annually to remove locally originated sediment from streams, channels and reservoirs. More than $65 million could be spent locally to remove this sediment, in addition to clearing the Bay of imported sediment. Costs are about one third of that because many larger reservoirs are being allowed to fill up where dredging is prohibitive.

The less quantifiable impacts of erosion and sedimentation may be just as important. Erosion removes nutrients with the soil for deposition in our waters. Erosion causes the loss of precious topsoil with an estimated worth of $60 million per year in the Bay Area. Sediment in water supply reservoirs decreases water quality, and increases treatment costs of chemicals, energy and sludge disposal. Streams with heavy sediment loads lose flood carrying capacity and can lead to property damage in adjacent areas.

Excessive deposition of sediments in streams and lakes will smother the bottom fauna and literally "pave" a stream bottom into a flat sterile environment. Erosion of streambanks and adjacent watershed areas can destroy vegetation that is important in moderating climatic extremes as well as providing aquatic and wildlife habitat. Turbidity from high stream sediment loads can reduce in-stream photosynthesis leading to reduced food supply and habitat. Excessive nutrients from surface runoff can trigger major algal blooms that choke waterways, deplete oxygen and lead to fish kills.

EROSION RELATED RECOMMENDATIONS

The plan actions under Policy 8 deal directly with erosion in urban and rural areas. A major action is to have every city and county improve grading ordinances to require that new construction include basic, relatively inexpensive but very effective practices to reduce erosion from disturbed soil. Owner built homes in non-critical areas could even be exempt from adding control measures. If fully implemented, this action could lower Bay Area sediment yield by up to one million cubic yards annually. The modest one time construction cost of the measures would be more than offset by just the saved dredging costs of the retained sediment and the ecological impacts would also be substantially prevented.

In order to assist local governments and builders in the implementation of control measures, ABAG, working with consultants and interested agencies, has prepared a manual containing specifications for control measures, model ordinance, and planning and enforcement guides. This manual, to be revised as new technical information is developed, is proposed as an official guide for measures developed specifically for Bay Area conditions.

Erosion is also certainly a problem of rural areas. The Bay Area Council of Resource Conservation Districts has prepared a list of critical watersheds in the Bay Area counties for adoption into the Environmental Management Plan. Table 5.1 adopted into the WQMP identifies these rural and urban fringe watershed problem areas. These watersheds are critical for erosion and water quality by virtue of their topography, soils, land use activities or need for controls. It is intended that this list be used by local governments in their planning activities and for eligibility in Federal or State grant programs.

In keeping with this concept, Alameda, Marin, Santa Clara and San Mateo counties have been preparing protection plans for five critical watersheds that have demonstrated water quality protection needs. These plans include a number of control measures ranging from physical devices added during construction activities to a unique transfer of development rights out of a critical area.

CHEMICAL SPILLS

Oil and chemical spills, due to their unexpected and intermittent nature, pose unique water quality and management problems. Types of water quality problems that can be associated with spills include toxicants, pesticides, oil and grease, nutrient enrichment, organic wastes, low dissolved oxygen, litter and debris. Effects vary greatly depending on the substance and amount spilled. A large volume of a typically harmless substance such as milk can have a harmful effect equal to or greater than that of a small amount of a toxic material. The potentially severe impacts of spills upon the environment include fish kills, destruction of aquatic habitat and zooplankton, degradation of shore communities incluing commercial oysters and clam beds, fouling of beaches and reduction of aesthetic qualities, and harm to human health. Aquatic birds and mammals can also be adversely affected. Fish flesh may become tainted and fish production lowered. Concern is also rising as to potential chronic impacts from the cumulative occurrence of spills.

Chemical spills are a unique water pollution control problem. Here today--gone tomorrow aptly describes the principal reason why chemical spills are still troublesome. Accidental events, with no predictable frequency or location and with transitory but highly toxic effects are difficult to regulate or manage. The Environmental Management Plan recognized this problem in Policy 12 of the WQMP. Various actions were spelled out for improvement in spill management. Subsequent analysis indicated these were still insufficient.

A recent survey was conducted of spill reports for the Bay Area. The results of that survey are presented in Table III-2. The numbers themselves, ranging from 127 to 360 spills per year are disturbing and probably represent only a portion of the true number of spill events. The immediate problems the table illustrates are due to the variations in numbers.

Each of the agencies listed in Table III-2 has a separate jurisdiction and concern, with occasional area of overlap. Each agency has an operational definition of hazardous and non-hazardous chemicals, and each has a distinct philosophy on which areas of the environment are to receive prime protection. Into this arena must be added local fire districts, often first on the scene, with locally developed spill management plans. The result is an inconsistent approach to spill management that does not maximize the resources available to the Bay Area and often uses surface waters as convenient ultimate disposal sites.

If the situation with hazardous chemicals appears somewhat uncoordinated, the handling of non-hazardous chemical spills is far worse. Table III-3 indicates that most agencies contacted did not have plans or policies for containment of non-hazardous chemicals. Yet these "safe" chemicals have a greater potential for water quality damage than do hazardous materials. For example, large volumes of milk or wine have poisoned fish, depleted oxygen levels and added nutrients to receiving waters. Non-hazardous but water polluting chemicals make up 95 percent of the chemical shipments on our roadways.

TABLE III-2. OIL AND CHEMICAL SPILLS REPORTED IN THE BAY AREA ANNUALLY

Reporting Agency	Average Number of Spills/Year[a]	Type of Spill and Percentage Occurrence percent			
		Oil	Hazardous Materials	Non-hazardous Materials	Unknown Substance
Coast Guard (1)	360	98	2[b]	--	--
Environmental Protection Agency (2)	200	60	24[c]	5	11
State Department of Fish and Game (3)	127	58	21[d]	9	12
Caltrans (5)	160	4	17	78	1
State Office of Emergency Services (7)	170	nda[e]	nda	nda	nda

a Due to overlapping jurisdictions, spill counts from each agency should not be added together to give a total annual county for the Bay Area.

b Hazardous materials, defined by Title 49 CFR, Part 172, list of 1260 materials.

c Hazardous substances, defined by Title 40 CFR, Part 117, list of 299 materials.

d In practice, DFG considers any substance potentially hazardous to waterways. However, the California Administrative Code, Title 22, Division 4, Chapter 30, Article 8, identifies 791 materials as hazardous to people and wildlife.

e No data available

Source: "Water Quality Problem Statement for Oil and Chemical Spills", L. Jackson, ABAG Water Quality Management Plan, Technical Memorandum No. 54 April 1980.

TABLE III-3. SURVEY OF JURISDICTIONS WITH A PLAN OR POLICY FOR CONTAINMENT OF NON-HAZARDOUS MATERIALS SPILLS

County or Agency	Containment Plan or Policy	No Containment Plan or Policy
ALAMEDA		
County Office of Emergency Services	X	
Berkeley Fire Department		X
Oakland Fire Department		X
Livermore Emergency Services		X
CONTRA COSTA		
County Office of Emergency Services	X	
Contra Costa County Fire Protection District		X
Richmond Fire Department	X	
MARIN		
County Office of Emergency Services		X
Marin County Fire Department		X
Tiburon Fire Department		X
NAPA		
County Office of Emergency Services		X
Napa Fire Department		X
SAN FRANCISCO		
County Office of Emergency Services		X
San Francisco Fire Department		X
SAN MATEO		
County Office of Emergency Services		X
Redwood City Fire Department		X
SANTA CLARA		
County Office of Emergency Services		X
San Jose Fire Department		X
SOLANO		
County Office of Emergency Services		X
Vallejo Fire Department		X
SONOMA		
County Office of Emergency Services		X
Santa Rosa Fire Department	X	
CALTRANS	X	

Source: "Water Quality Problem Statement for Oil and Chemical Spills", L. Jackson, ABAG Water Quality Management Plan, Technical Memorandum No. 54 April 1980.

SPILL MANAGEMENT RECOMMENDATIONS

The plan actions for Policy 12 call for all agencies dealing with spills handling to draft a regional spill response plan for the Bay Area. The agencies would include representatives of fire districts, emergency services, public works, State and Federal agencies. The regional response plan would identify Bay Area resources, resolve inconsistencies among plans and policies, assess equipment and manpower needs, and serve as a mechanism to obtain needed improvements.

The plan also calls for spill response agencies to practice containment of all spills, for subsequent pickup and disposal in a safe site. Partially in recognition of the polluting potential of all chemicals and the often argued distinctions among hazardous and non-hazardous chemicals, Caltrans has already adopted a policy of containment for all spills.

IV. NEW ACTIONS ADOPTED INTO THE ENVIRONMENTAL MANAGEMENT PLAN

New actions adopted in 1980 for the WQMP are as follows:

WATER QUALITY MANAGEMENT ELEMENT

Policy 1. Improve understanding of the Bay-Delta estuarine system and the fate and effects of pollutants entering it.

Action 1.6 Support programs and proposals to protect water quality of the San Francisco Bay-Delta estuarine system.

MUNICIPAL FACILITIES ELEMENT

Policy 5. Provide facilities needed for municipal sewerage service and water quality protection.

Action 5.3 Consolidate preparation of 20-year municipal wastewater facilities project list.

Action 5.4 Evaluate potential recreational facilities and benefits during water quality protection facility planning.

Action 5.5 Incorporate recreational facilities into water quality protection projects where economically justified.

Action 5.6 Consider recreational facilities as mitigation measures offsetting possible negative impacts of water quality protection projects.

SURFACE RUNOFF ELEMENT

Policy 8. Establish a program of surface runoff controls that emphasize low cost measures to reduce the pollutant load from this source.

Action 8.3 Adopt regionally consistent definition of Best Management Practices and revise as new information warrants.

Action 8.4 Adopt and implement effective ordinances and programs for the control of construction-related erosion.

Action 8.5 Implement other Best Management Practices as needed to protect beneficial uses of receiving waters.

Action 8.6 Identify critical watershed problem areas.

Action 8.7 Adopt watershed protection plans for critical areas.

MISCELLANEOUS SOURCES ELEMENT

Policy 12. Monitor effectiveness of existing arrangements for prevention and dealing with oil and chemical spills in the Bay Area.

Action 12.8 Amend county spill plans to include containment of all non-hazardous chemical spills exceeding 100 gallons.

Action 12.9 Prepare and implement a regionally-coordinated chemical spill response plan.

A description of the new Water Quality Management Plan recommendations and their associated environmental impacts is summarized in the following revision to Table 5 on plan recommendations.

Table 5.1 presents the final version of the list of Rural and Urban Fringe Watershed Problem Areas. This list was prepared by the Council of Bay Area Resource Conservation Districts under contract to ABAG. It was originally published as Appendix B in the May 1980 Draft Water Quality Management Plan recommendations. Since then it has been reviewed again by each of the 13 RCD offices in the Bay Area and revised in response to their comments and the comments of cities and counties.

Following Table 5.1 is the latest list of wastewater facilities needs included in the WQMP. This list was adopted by General Assembly Resolution 5-79 in November 1979, and modified by the Executive Board in December 1979. The resolution adopting the list is reprinted immediately preceding the list for the convenience of the reader.

Table 5.2 lists agencies identified for implementation of the water quality management plan amendments adopted in 1980. Some agencies have already implemented portions of the 1980 amendments.

AMENDMENT TO ENVIRONMENTAL MANAGEMENT PLAN

CHAPTER III - WATER QUALITY MANAGEMENT

SECTION F - PLAN RECOMMENDATIONS

TABLE 5 - WATER QUALITY MANAGEMENT PLAN RECOMMENDATIONS

POLICY 1. IMPROVE UNDERSTANDING OF BAY-DELTA ESTUARINE SYSTEM AND THE FATE AND EFFECTS OF POLLUTANTS ENTERING IT

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
1.6 Support programs and proposals to protect water quality of the San Francisco Bay-Delta estuarine system.	Review administrative and legislative proposals affecting the Delta and support those that would protect the water quality of the Bay-Delta estuarine system.	ABAG	Continuous	FWPCA Section 208(J)	To be determined.	To be determined	To be determined	Voluntary

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS
Air Quality o No impacts. Water Quality o Would improve water quality indirectly--provides data to make informed decisions. Physical Resources o Would benefit physical resources indirectly as water quality is improved, e.g., the aquatic community, flora, fauna and recreation. Energy o No impacts. Amenities o Would affect amenities indirectly; highly dependent on nature of actions taken as a result of monitoring data.	Financial o Costs would be met by participants; dischargers, counties, RWQCB, SWRCB, and EPA. Institutional o May result in higher level of cooperation among agencies and dischargers. o May improve accuracy and credibility of research and monitoring results.	Consumer Expenditures o No impact	Housing Supply o No impacts. Physical Mobility o No impacts. Health and Safety o Might uncover health and safety problems as a result of research or monitoring. o Would affect decisions on water quality that affect public health. Sense of Community o No impact. Urban Patterns o No impact. Equity o No impact.

POLICY 5. PROVIDE FACILITIES NEEDED FOR MUNICIPAL SEWERAGE SERVICE AND WATER QUALITY PROTECTION

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
5.3 Consolidate preparation of 20-year municipal wastewater facilities project list	Separate but similar lists previously have been prepared by ABAG and the RWQCB. The RWQCB would compile the draft list. ABAG would review the draft list for consistency with the WQMP and conformity with other environmental programs or plans. ABAG would amend the list as appropriate into the WQMP. Inconsistencies would be returned to the RWQCB for joint resolution. The exact nature of the 20-year list and details on participation by the RWQCB and ABAG would be resolved in negotiations among ABAG, the State and EPA.	RWQCB ABAG	July 1980 and continuously thereafter	FWPCA, Porter Cologne Act; Article 5.5, Government Code; Clean Air Act	$20,000	$20,000	Sec.106 and 201 grant funds, state funds	SWRCB and EPA review

ENVIRONMENTAL IMPACTS

Air Quality

- Temporary dust problems during facility construction.
- Poorly designed or operated facilities may cause local odor problems.
- Localized potential increases in carbon monoxide levels.

Water Quality

- At minimum would result in removal of suspended solids, some toxicants, some nutrients, most bacteria and most oxygen demanding substances.
- Treatment plants would provide high bacteria and virus removal, nutrient removal and/or reduction of toxicants and resistant organic compounds.
- Growth accommodated would increase surface runoff by increasing the amount of impervious surfaces.
- Reclaimed wastewater would increase supplies of water for agricultural, industrial, park and golf course irrigation.

Physical Resources

- Water quality improvements benefit fish and wildlife resources.
- Would increase sewage solids volumes and would require coordination with regional Wastewater Solids Study plan results.
- Consumes construction materials (mineral resources).
- Would result in disruptions of adjacent land uses and reduced supply of resources (e.g., agricultural lands).
- Growth accommodated would consume between 190,000 and 250,000 acres of land by 2000 or 50-65% of land available for development.
- May reduce wildlife habitats through encroachment or filling of marshes, mudflats.
- May alter the supply of land available for recreation uses.

Energy

- Consumes electricity, gas and diesel fuel during construction.
- Commits to energy use for treatment plant operation.
- Advanced physical-chemical plants sume significant amounts of energy.
- Could result in energy production benefits when co-combustion projects (sludge and refuse) are undertaken at the plant site.

Amenities

- Facility construction, operation and design may have adverse visual, odor and noise effects.

INSTITUTIONAL/FINANCIAL IMPACTS

Financial

Direct Public Cost of Implementation

- Capital (20 year construction estimate) $2.4 billion.
- Operation and maintenance estimate $122 million/year in 1995.

Fiscal Effects on Local Governments

- Local governments and agencies would have to finance the local share of construction at a minimum of 12.5% of total costs or an estimated $19 million (annualized) and all of $71 million (annualized) operation and maintenance costs.
- Specific fiscal effects depend on choice of financing mechanisms. Increased user charges, connection fees and property taxes in service areas would increase revenues of sewerage service agencies.
- Indirect fiscal impacts would result from costs to provide public services (police, fire, etc.) to new development.

Institutional

- Would require growth of existing agencies to provide expanded sewerage services.
- Would require additional staff resources to provide public services to new development.
- Would enable local governments to meet requirements of Federal and State standards.
- Some projects may conflict with local general plans.
- Involves coordination between ABAG and the Regional Water Quality Control Board.

ECONOMIC IMPACTS

Production of Goods and Services

- Employment - approximately 35,000 temporary and 700 permanent jobs would result from facility construction and operation.
- Could permit influx of industrial/commercial businesses that would use municipal sewers.
- In some cases would permit industry to stay rather than be closed by stringent direct discharge requirements.

Income and Investment

- Indirect increase in plant operators and construction workers wages.
- Facility construction will compete for funds on money markets.

Consumer Expenditures

- Increased costs to consumers for connection to sewerage system.
- Operation and maintenance costs are paid for by user charges.
- Property taxes may increase in service areas to retire bonds issued to finance construction.

SOCIAL IMPACTS

Housing Supply

- Treatment facilities would accommodate approximately between 700,000 and 900,000 new housing units in the region by the year 2000.
- Provision of sewerage service in unsewered areas could increase the supply and costs of housing in those areas.

Physical Mobility

- Localized, short term disruptions in mobility may result during construction.
- Congestion may result unless transportation improvements are made to serve development accommodated by improvements in wastewater facilities.

Health and Safety

- Reduced health risks should result where discharges of poorly treated wastes are eliminated.
- Indirect health benefits from water quality improvements.
- Flood, subsidence, tsunami, landslide and seismic hazards may constrain the location, design and operational reliability of facilities.
- Growth accommodated may affect local governments' effort to direct development away from hazardous areas.

Sense of Community

- Character of neighborhoods and communities may change.
- Provision of sewerage services in rural areas tends to change the character of rural communities to urban/suburban.

Urban Patterns

- Collection systems in unsewered areas outside of urban service areas may be in conflict with local general plans.

Equity

- Sewer service charges are based on use and not ability to pay.
- User charges, connection fees and property tax increases would impact low and moderate income households differently than high income households.
- Development and housing impacts may affect the ability of low and moderate income families to afford adequate housing.

POLICY 5. PROVIDE FACILITIES NEEDED FOR MUNICIPAL SEWERAGE SERVICE AND WATER QUALITY PROTECTION

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
5.4 Evaluate potential recreational facilities and benefits during water quality protection facility planning	Step 1 of 201 facilities planning and non-point pollution control facility planning will include evaluation and planning of potential associated recreational facilities	Sewerage agencies, cities, counties	See 20-year project list	FWPCA, Sec.208(b)(2)(A)	$120,000 est.	-0-	Federal & State grants + user charges + assessments	SWRCB and EPA approval of facility plans

ENVIRONMENTAL IMPACTS

Air Quality

- o Temporary dust problems during construction of plants and interceptors
- o Facilities design and operation requires control of odor nuisance to allow recreational use nearby
- o Localized air pollutant emissions may occur with auto access to facilities

Water Quality

- o Treatment plants would provide high bacteria and virus removal, reduction in suspended solids, oxygen-demanding substances and some nutrients.
- o Reclaimed wastewater would increase water supplies for agricultural and landscape irrigation and creation/augmentation of ponds, wetlands and streams

Physical Resources

- o Water quality improvements benefit fish and wildlife resources for recreation
- o Agricultural, landscape irrigation and aquatic system creation can perpetuate open space resource
- o Requires coordination of wastewater facilities design to minimize reduction of recreation uses and wildlife habitats
- o Wastewater facilities design can enhance recreation uses/natural resources in selected areas as tradeoffs for damage by facilities construction
- o Wastewater and surface runoff facilities can provide new recreation opportunities

Energy

- o Incremental consumption of gas, electricity and diesel fuel during construction varying with type of recreational use added
- o Recreation irrigation and water supply requires electricity/fuel for pumping/conveyance

Amenities

- o Improved visual amenities through open space preservation and new or enhanced recreational facilities
- o Wastewater facilities construction, design and operation will include greater consideration for odor and noise reduction and visual enhancement.

INSTITUTIONAL/FINANCIAL IMPACTS

Financial

Direct Public Cost of Implementation:

- o Design and construction costs are project-specific. Example costs:
  - -Wetland system (20 acres) in 1.5 mgd treatment facility - total facility cost $94,000, O&M $1200/yr. + 6 person-mo. (Mt. View Sanitary Dist.)
  - -East Bay Dischargers Auth. reclaimed water supply to Coyote Hills Regional Park wetlands: capital + design costs ≈ $248,100

Fiscal Effects on Local Governments:

- o Local entities must finance 100% of incremental project costs for recreation facilities.
- o Local entities must finance all annual operation and maintenance (O&M) costs.
- o Potential $ savings in multi-purpose facilities. Principally, land acquisition costs may become negligible for the recreational facilities.
- o Specific fiscal impacts depend on choice of financing mechanisms. Bonds, increased user charges, connection fees and property taxes in service areas would increase revenues of sewerage service agencies.
- o Indirect fiscal impacts would result from costs to provide public services to new or improved recreational facilities.

Institutional

- o Would require coordination of existing agencies to manage multi-purpose facility
- o May require additional staff resources to provide public services to new facility
- o Would fulfill recreation element of local general plans or may require general plan revision

ECONOMIC IMPACTS

Production of Goods and Services

- o Employment- temporary and permanent job creation would depend on type of multi-purpose recreational use facilities for construction and operation

Income and Investment

- o Increased wages and salaries may result from jobs created
- o Facility construction and operation will compete for local agency funds
- o Recreational facilities with wastewater projects should be planned to provide benefits ($/total visitor-days) exceeding incremental capital and O&M costs

Consumer Expenditures

- o Operation and maintenance costs of multi-purpose recreational facilities may be paid for by user charges

SOCIAL IMPACTS

Housing Supply

- o May indirectly benefit housing rehabilitation programs where new recreation opportunities and open space are provided

Physical Mobility

- o Localized, short-term disruptions in mobility may result during construction.
- o New or improved recreational facilities associated with water programs can be designed for better access to handicapped persons.

Health and Safety

- o Water quality improvements can provide reduced health risks in recreation areas near wastewater discharges
- o Indirect health benefits accrue from improvement of wildlife sport populations through cleaner wastewater discharges.

Sense of Community

- o Improved visual amenities of open space can contribute to improved sense of community.
- o New or improved recreation opportunities in local areas promotes sense of community.

Urban Patterns

- o No impacts

Equity

- o User charges and property tax increases would impact low and moderate income households differently than high income households.
- o Some types of recreation opportunities, (e.g. neighborhood parks) provide benefits only to localized areas.

POLICY 5. PROVIDE FACILITIES NEEDED FOR MUNICIPAL SEWERAGE SERVICE AND WATER QUALITY PROTECTION

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
5.5 Incorporate recreational facilities into water quality protection projects where economically justified	Facilities to be incorporated where the total recreational benefit exceeds the incremental cost and is compatible with local park or open space plans	Sewerage agencies, cities, counties	See 20-year project list; non-point facilities as developed	FWPCA, Sec.208(b)(2)(A)	Undetermined	-0-	Local funds	Voluntary
5.6 Consider recreational facilities as mitigation measures offsetting possible negative impacts of water quality protection projects	Reviewing agencies to accept recreational facilities as mitigation measures to related negative impacts in EIS and EIR documents. This action does not recommend or endorse the net loss of natural wildlife areas.	Permitting and funding agencies as applicable	See 20-year project list; non-point facilities as developed	NEPA (P.L. 90-190, Sec.102(2)(C) CEQA (CRC Title 14, Sec.14085(h)	-0-	-0-		SWRCB and EPA review

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS
Impacts same as noted for Action 5.4.	Impacts same as noted for Action 5.4.	Impacts same as noted for Action 5.4.	Impacts same as noted for Action 5.4.
Impacts same as noted for Action 5.4.	Impacts same as noted for Action 5.4.	Impacts same as ntoed for Action 5.4.	Impacts same as noted for Action 5.4.

POLICY 8. ESTABLISH A PROGRAM OF SURFACE RUNOFF CONTROLS THAT EMPHASIZE LOW COST MEASURES TO REDUCE POLLUTANT LOAD FROM THIS SOURCE

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
8.3 Adopt regionally consistent definition of Best Management Practices and revise as new information warrants	Appendix I, Standards Manual for Surface Runoff Control Measures, would provide information on BMPs and implementation.	ABAG	June 1980	FWPCA	$ 40,000	$ 40,000	Federal Sec.208 grants, local match	Voluntary

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS
Air Quality o No impacts Water Quality o No impacts Physical Resources o No impacts Energy o No impacts Amenities o No impacts	Institutional ▫ Would facilitate comparable information exchange on Best Management Practices between agencies. ▫ Would serve as reference document for planning and erosion control enforcement. o Can reduce redundancy in development of technical information	Production of Goods and Services o No impact Income and Investment o No impact Consumer Expenditures o No impact	Housing Supply o No impact Physical Mobility o No impact Health and Safety o No impact Sense of Community o No impact Urban Patterns o No impact Equity o No impact

POLICY 8. ESTABLISH A PROGRAM OF SURFACE RUNOFF CONTROLS THAT EMPHASIZE LOW COST MEASURES TO REDUCE POLLUTANT LOAD FROM THIS SOURCE

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
8.4 Adopt and implement effective ordinances and programs for the control of construction related erosion	Effective ordinances would be adopted.	Counties and cities	July 1980 to June 1981	Local government enabling legislation	Undetermined	Undetermined	Permit fees Local funds	Voluntary. RWQCB can take action when water quality is impaired.

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS
in brackets. Air Quality o Localized reductions in dust/particulate matter from construction activities Water Quality o Reduced amounts of sediments and nutrients entering waterbodies from construction activities o Reduced siltation of stream channels, lakes and reservoirs and annual sediment loadings to the Bay contributed by land disruption by human activities o Reduced turbidity, algae blooms, and oxygen depletion in streams, lakes and reservoirs. o Reduced incidence of impaired use (e.g., water supply) of waterbodies o Reduced amounts of suspended solids available for chemical, pesticide and heavy metal binding Physical Resources o Reduction in fish kills and maintenance of balanced aquatic system. o Indirectly benefits productivity of aquatic community by preventing or reducing interference with photosynthesis, elimination of excess food sources o Reduced losses of sand and gravel and productive topsoil o May indirectly enhance recreation potential and use of waterbodies and adjacent lands Energy o May indirectly result in energy savings where remedial dredging activities are reduced Amenities o Visual benefits of less turbid waters, reduced algae blooms and reduced eroded areas o Visual benefits of preserving the natural state of the environment	Financial Direct Public Costs of Implementation o See County Surface Runoff control Plans Cost Data o See ABAG Specifications manual for surface runoff control measures for example costs Fiscal Effects on Local Governments o Local government would spend an additional $10-50/unit for plan review and site inspection. This additional cost could be recovered by increasing permit fees. o Performance bonds may offset costs of clean-up o Savings in operation and maintenance costs (e.g., in reservoirs) of local governments and special districts may result - an estimated $5 million is spent annually to alleviate lake problems such as siltation, algae blooms, aquatic weeds, fish kills, etc. Institutional o Effective implementation would require the cooperation of numerous public agencies such as City and County Planning and Building Departments, County Public Works and Flood Control Districts, and Soil Conservation Service Regional Offices o Some aspects of erosion control programs may meet with public opposition o Additional staff resources may be required to implement and enforce the recommendations	Production of Goods and Services o Employment - Creation of job opportunities may result (e.g., landscape and engineering consultants, construction firms) o Increased demand for goods and services may result in some new firms entering market Income and Investment o Effects on wages and salaries depends on control measures effects on production and employment o Increased profits for firms benefiting from increased demand for goods and services o Profit of firms and individuals bearing costs of controls should not be affected assuming costs can and will be passed on to the consumer (industry dependent response) Consumer Expenditures o Where private industry costs to control erosion are passed on in product prices, costs of goods and services will increase o Housing costs may increase $45-$550/unit ($10-50 permit fees and $35-500 design and installation of control measures) for new housing where erosion controls are not current practice. Direct Private Costs of Implementation Example Costs of Erosion Control Hydroseeding/Hydromulching $425-900/acre Siltation Berm $7.33/lineal foot Waterway Fencing $1-2.75/lineal foot Range Seeding $18/acre Construction erosion controls for subdivisions would range from $250/acre in level country up to approximately $2400/acre for hillside areas.	Housing Supply o Implementation of erosion control measures should not affect actual housing supply. Physical Mobility o Localized, temporary disruption in physical mobility during construction activities Health and Safety o Indirect public safety benefits of reduced flood peaks and flood risks associated with siltation and alteration of natural flow regimes in streams o Reduced erosion and mudslide risks o Reduced development in hazardous areas with attendant public safety benefits o Reduced conditions conducive to propagation of vectors and other noxious plant and animal species o Retention or debris basins may become a health hazard if water stagnates and vector problems result or a safety hazard (drowning) Sense of Community o No impacts Equity o Indirect impacts on special population groups depends on financing mechanism(s) proposed as well as actual impacts on housing supply and costs. Urban Patterns o Erosion control requirements should not in and of themselves affect urban patterns

POLICY 8. ESTABLISH A PROGRAM OF SURFACE RUNOFF CONTROLS THAT EMPHASIZE LOW COST MEASURES TO REDUCE POLLUTANT LOAD FROM THIS SOURCE

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
8.5 Implement other Best Management Practices as needed to protect beneficial uses of receiving waters	Additional practices other than 8.4 would be implemented as needed to alleviate known water quality problems.	Counties, cities, Resource Conservation Districts, and other special districts	As needed	Local government enabling legislation	Undetermined	Undetermined	Local funds	Voluntary. RWQCB can take action when water quality is impaired.

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS

EXAMPLE CONTROL MEASURES
The following control measures and their associated impacts were presented for Policy 8 in general.

Air Quality

- Temporary and localized air pollutant emission increases may occur during sweeping operations
- Reduced quantities of dust available for suspension as particulate matter

Water Quality

- Reduced transport of heavy metals, nutrients, pesticides, organic and microbiological pollutants into water bodies. Typical removals: 30-50% total solids, 25-40% BOD, 25-40% Kjedahl nitrogen , 8-20% phosphate, 25-60% heavy metals
- Reduced incidence of impaired uses (e.g., water supply) of water bodies

Physical Resources

- May indirectly benefit aquatic organisms
- Enhanced water recreation potential and use
- May reduce landfill capacities needed to accommodate residues.

Energy

- Sweeping equipment uses energy

Amenities

- Improved visual amenities on paved surfaces and in water bodies e.g., reduced floatable solids
- Temporary, localized noise level increases from equipment operation (70-80 dBA at 50' on flat grade) May be mitigated by noise abatement measures

Financial

Direct Public Costs of Implementation

- See County Surface Runoff control Plans Cost Data
- Example Costs of Street Sweeping Programs

  $16 per cu. yd. of material collected

  $18 per ton of material collected

  $4-5 per curb mile

Fiscal Effects on Local Governments

- Direct impacts on fiscal resources depend on revenue source(s) used - See County Plans

Institutional

- May require intergovernmental coordination
- May require additional staff resources to improve efficiency of sweeping programs
- May impact other public service levels

Production of Goods & Services

- Employment - Creation of job opportunities in the private sector may result (administrative and operation and maintenance jobs)

Income and Investment

- No impacts

Consumer Expenditures

- No impacts

Housing Supply

- No impacts

Physical Mobility

- Temporary, localized disruption of physical mobility may result during sweeping operations. Can be mitigated by scheduling work during off-peak hours

Health & Safety

- Reduced health risks associated with water quality improvements and vector control benefits

Sense of Community

- Visual amenity benefits on streetscape and in urban access water bodies may enhance the sense of community

Equity

- Indirect impacts on special population groups would depend on the financing mechanisms proposed for implementation. In general, payment through the property tax mechanism differentially impacts low- and moderate-income groups

Urban Patterns

- No impacts

Improved Street Sweeping

ENVIRONMENTAL IMPACTS

Air Quality

- o Reduced odors when accumulated debris is removed; decomposition prevented.
- o Temporary, localized air pollutant emission increases may occur during cleaning operations when motorized vehicles are used.

Water Quality

- o Removal of accumulated solids (sediments, litter, leaves) may reduce BOD, Nitrates, Phosphates and oil and grease loads to water bodies from first flush effects of storms.
- o Reduced incidence of impaired uses (e.g. water supply) of water bodies.

Physical Resources

- o May benefit aquatic organisms.
- o May impact land fill capacities where increased cleaning results in increased quantities of solids for disposal (e.g. 1 T. material/year/catch basin; open drainage channel deposits vary).

Energy

- o Motorized equipment uses fuel.

Amenities

- o Temporary localized noise level increases from equipment operation may be mitigated by noise abatement measures.

INSTITUTIONAL/FINANCIAL IMPACTS

Financial

Direct Public Costs of Implementation

- o See County Surface Runoff control Plans Cost Data.

Example Costs:

Catch basin Cleaning Costs $6-8/catch basin or $4-15/cu yd. Material Collected;Sewer Cleaning Costs $50-100/cu. yd. material removed.

Fiscal Effects on Local Government

- o Direct impacts on fiscal resources depend on revenue source(s) used - See County Plans.
- o May be consolidated with ongoing sewer system maintenance program costs.

Institutional

- o May require additional staff resources (public workspersonnel on short term basis and inspection, administrative personnel on long-term basis) or reallocation of resources.
- o May result in displacement of another public service (or level of service) during concentrated cleaning effort periods.
- o May result in agency staff opposition to changed work assignments and schedules and added work loads.

ECONOMIC IMPACTS

Production of Goods and Services

- o Employment- Creation of job opportunities in the private sector may result (e.g. engineering consultants, equipment manufacturers, monitoring and inspection personnel).

Income and Investment

- o Effects on wages and salaries depend on need for additional staff to meet demand.
- o Increased profits may result from demand for private sector goods and services.

Consumer Expenditures

- o No impacts.

SOCIAL IMPACTS

Housing Supply

- o No impacts.

Physical Mobility

- o Temporary, localized disruptions in physical mobility may occur during cleaning operations. May be mitigated by scheduling operations during off peak hours.

Health and Safety

- o Water quality benefits may have indirect health benefits.
- o Cleaning activities may also benefit flood control channel maintenance.

Sense of Community

- o No impacts.

Equity

- o Impacts on special population groups depends on the financing mechanism(s) chosen to implement and the job benefits distribution.

Urban Patterns

- o No impacts.

Clean Storm Collection System

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS
Air Quality o Reduced incidences of odors associated with decomposing debris and litter in water bodies and stormwater collection systems. **Water Quality** o Reduced litter and organics (BOD phosphorus, nitrogen) available for introduction to stormwater system and waterbodies. o Reduced blockage of storm channels. o Reduced incidence of impaired uses (e.g., water supply) of waterbodies. **Physical Resources** o May indirectly benefit aquatic organisms. o Enhanced water recreation potential and use where debris and litter associated pollution impairs use. o May impact solid waste management practices - landfill capacities may be affected by added quantities of solids for disposal; may be an added incentive for recycling, neighborhood composting and other resource recovery programs. **Energy** o When augmenting alternative solid waste management programs, may benefit energy conservation efforts. **Amenities** o Visual amenity benefits of cleaner landscapes and reduced debris in waterbodies.	**Financial** Direct Public Costs of Implementation o See County Plans Cost Data. Fiscal Effects on Local Government o Direct impacts on fiscal resources depend on source(s) of revenue used to fund program efforts - See County Plans. o State subvention funds and fines may offset costs of enforcement and education. o Reduced amounts of litter may result in cost savings in waste collection programs. **Institutional** o May require intergovernmental coordination between State, regional and local government agencies and special districts. o Improved enforcement and intensified anti-litter advertising campaign may require additional staff or reallocation of agency personnel.	**Production of Goods and Services** o Employment - no impact expected in private sector. **Income and Investment** o Public employment benefits may result in increases in wages and salaries. **Consumer Expenditures** o No impacts.	**Housing Supply** o May indirectly benefit housing rehabilitation programs where litter control programs improve aesthetics of neighborhoods. **Physical Mobility** o No impacts. **Health and Safety** o Water quality improvements may have indirect health benefits. o Reduced litter may enhance vector control programs by eliminating or reducing habitats. **Sense of Community** o Enhanced neighborhood aesthetics may contribute to improved sense of community. **Equity** o Impacts on special population groups depends on financing mechanism(s) chosen to implement the program. o Where programs reduce litter and vectors with associated health benefits in areas with large concentrations of special population groups, those groups will benefit. **Urban Patterns** o No impacts.

Control Littering

ENVIRONMENTAL IMPACTS

Air Quality

- o May reduce incidence of odors associated with decomposing debris in water bodies and stormwater collection systems

Water Quality

- o Reduced amounts of debris and oil may reduce BOD, phosphates, nitrogen, suspended solids, heavy metals introduced to stormwater system and waterbodies
- o Less oil would be available to leach into groundwater supplies
- o Reduced incidence of impaired uses (e.g., water supply) of water bodies

Physical Resources

- o May indirectly benefit aquatic organisms by removing toxic substances from the environment
- o Enhance water-oriented recreation potential and use where dumping of debris and oil impairs use
- o Reduced dumping could reduce quantities of solid waste which are disposed of in landfills
- o Waste from re-refineries is high in concentrated metals and sulfur. Sludge created will require careful solids management

Energy

- o Oil recycling may augment energy conservation efforts - 700 homes could be heated with BTU equivalent of oil currently dumped
- o Recycled oil can be used to produce other energy consumptive products such as asphalt
- o Re-refineries use part of waste product as fuel to power lighting and pump operations

Amenities

- o Visual amenity benefits from cleaner landscape and less debris and oil slicks in water bodies

INSTITUTIONAL/FINANCIAL IMPACTS

Financial

Direct Public Costs of Implementation

- o See County Surface Runoff Management Plans Cost Data

Fiscal Effects on Local Governments

- o Direct impacts on fiscal resources depend on source(s) of revenue used to fund programs - See County Plans
- o Reduced dumping may result in some cost and savings in public works programs (Ex. cost to remove oil dumped is $ 150/gallon)
- o Fines for illegal dumping may offset costs of additional enforcement efforts
- o Use of re-refined oil by public agencies would result in savings in fleet operation and maintenance costs
- o Public agency oil recycling would generate revenues from sale of oil to re-refineries

Institutional

- o May require additional staff resources to improve regulation and enforcement and educate public
- o May require cooperation of public agencies with regulatory and program responsibilities for control of dumping and oil recycling
- o May require additional regulations and guidelines to ensure proper labeling, handling and accessibility to re-refined oil

ECONOMIC IMPACTS

Production of Goods & Services

- o Employment - Job opportunities may result if extensive oil recycling programs stimulate demand for more recycling firms
- o Production of recycled oil may increase
- o Additional firms may enter the market to meet increased demand

Income & Investment

- o Increased wages and salaries may result from jobs created
- o May increase profits of firms benefited by increased oil recycling (Example: (prices fluctuate with oil costs)- service stations receive 8¢/gallon, used oil collection agents - 16¢/gallon, re-refineries $1.20 - 1.60/gallon)

Consumer Expenditures

- o Retail markets for re-refined oil are generally lacking. At such time as they are developed, consumers would receive the benefit of access to cost savings in purchase of re-refined oil

SOCIAL IMPACTS

Housing Supply

- o No impact

Physical Mobility

- o No impact

Health & Safety

- o Water Quality improvements may have indirect health benefits
- o Reduced dumping of debris and oil may augment vector and nuisance plant control program

Sense of Community

- o Enhanced neighborhood and physical environment aesthetics may contribute to improved sense of community

Equity

- o Impacts on special population groups depends on financing mechanism(s) chosen to implement the programs
- o Where programs reduce dumping and aid vector control and associated public health and enhancement in areas with large concentrations of special population groups, those groups will benefit

Urban Patterns

- o No impacts

Control Dumping

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS
Impacts same as noted for Control Dumping.	Impacts same as noted for Control Dumping.	Impacts same as noted for Control Dumping.	Impacts same as noted for Control Dumping.

Divert Runoff From Contaminated Areas

See Impact Assessment for Policy 5 of the Water Quality Management Plan (Provide Facilities Needed for Municipal Sewerage Service and Water Quality Protection

Treat and Store Runoff

Impacts same as noted for Control Dumping & Control Erosion.	Impacts same as noted for Control Dumping & Control Erosion.	Impacts same as noted for Control Dumping & Control Erosion	Impacts same as noted for Control Dumping & Control Erosion

Control Land Use Along Creeks

Impacts same as noted for Control Dumping.	Impacts same as noted for Control Dumping.	Impacts same as noted for Control Dumping.	Impacts same as noted for Control Dumping.

Other Measures

POLICY 8. ESTABLISH A PROGRAM OF SURFACE RUNOFF CONTROLS THAT EMPHASIZE LOW COST MEASURES TO REDUCE POLLUTANT LOAD FROM THIS SOURCE

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
8.6 Identify critical watershed problem areas	Table 5.1 lists critical watersheds with high erosion potential or water quality impacts.	ABAG, Bay Area Council of Resource Conservation Districts	June 1980	FWPCA Sec. 208 (J)	$40,000 in 1980	$40,000	Federal 208 Grant	Voluntary
8.7 Adopt watershed protection plans for critical areas	Watershed plans were developed in 1979-80 for Calabazas Creek, Cull Canyon, Nicasio Reservoir, San Mateo Lagoon and Pescadero Creek. Others may be developed in the future.	Counties and/or cities with appropriate jurisdiction	June 1980 and as needed	Local government enabling legislation	Undetermined	Undetermined	Local funds and fees	Voluntary

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS
Air Quality o No impacts Water Quality o Recognition of problem areas is the first step towards developing and implementing a watershed Protection Plan Physical Resources o No impacts Energy o No impacts Amenities o No impacts	Financial Direct Public Cost of Implementation: o No impact Fiscal Effects on Local Governments: o Planning and measures to control or protect critical watershed problem areas may become eligible for federal funding under 208 water quality planning Institutional o Local governments can include consideration of critical watershed problem areas in planning	Production of Goods and Services o No impact Income and Investment o No impact Consumer Expenditures o No impact	Housing Supply o No impact Physical Mobility o No impact Health and Safety o No impact Sense of Community o No impact Urban Patterns o No impact Equity o No impact
Impacts same as noted for Control Erosion Control Dumping	Impacts same as noted for Control Erosion Control Dumping	Impacts same as noted for Control Erosion Control Dumping	Impact same as noted for Control Erosion Control Dumping

POLICY 12. MONITOR EFFECTIVENESS OF EXISTING ARRANGEMENTS FOR PREVENTION AND DEALING WITH OIL AND CHEMICAL SPILLS IN THE BAY AREA

RECOMMENDATIONS	GENERAL DESCRIPTION	RESPONSIBLE AGENCY (OR AGENCIES)	SCHEDULE FOR ACTION	LEGAL AUTHORITY	TOTAL COST/YEAR OF RECOMMENDED ACTION	PORTION OF TOTAL COST/YR. DIRECTLY ATTRIBUTABLE TO THIS PLAN	FINANCING MECHANISM	MEASURES TO ENSURE IMPLEMENTATION
12.8 Amend county spill plans to include containment of all non-hazardous chemical spills exceeding 100 gallons.	Most non-hazardous chemicals can be significant water pollutants and destructive to aquatic life. This action is directed at the common practice of washing chemical spills into the nearest storm sewer and thus nearby stream and lake.	County Offices of Emergency Services, fire departments with independent plans	By June 1981	Local government enabling legislation	Undetermined	100%	Local funds	Voluntary
12.9 Prepare and implement a regionally coordinated chemical spill response plan	There is great variety and inconsistency among local spill plans and capabilities. A task force of principal spill respondents would develop a regionally coordinated plan and endeavor to correct deficiencies.	ABAG, County and State OES, fire districts, county health agencies, police services, RWQCB, Fish & Game, Caltrans, manufacturers, transporters	Commence in 1980-81	Local government enabling legislation	Undetermined	100%	Federal and State grants; local funds	Voluntary

ENVIRONMENTAL IMPACTS	INSTITUTIONAL/FINANCIAL IMPACTS	ECONOMIC IMPACTS	SOCIAL IMPACTS
Air Quality o No impacts. Water Quality o Reduced incidence of water pollution from non-hazardous materials spills. o Reduced incidences of impairment of beneficial uses of Bay and other surface waters. Physical Resources o Reduced incidence of spills and improved spill clean-up would protect: -aquatic community -flora and fauna-wildlife habitats (marshes, salt ponds) -water-related recreation use and potential o Spill clean-up would increase solid waste volume to landfill or composting facilities. Energy o No impacts. Amenities o Indirect visual amenity benefits associated with reduced incidence of spills and improved containment and disposal.	Financial Direct Public Costs of Implementation o See below. Fiscal Effects on Local Governments o Local spills prevention and clean-up programs may require commitment of local fiscal resources. Institutional o Direct impacts on intergovernmental responsibility and coordination - requires cooperation of numerous Federal, State, regional and local agencies.	Production of Goods and Services o Employment- Public and private sector job opportunities may result from improved enforcement and new requirements. Income and Investment o New requirements and enforcement of spill prevention programs may require private capital investments. o Profits of firms bearing costs of new requirements or improved enforcement should not be affected, assuming costs will be passed on to the consumer. Consumer Expenditures o Increased prices of goods and services may result when costs incurred to comply with spill prevention programs are passed on to consumer.	Housing Supply o No impact. Physical Mobility o No impact. Health and Safety o Reduced potential for public exposure to health and safety risks. Sense of Community o No impact. Equity o No impact. Urban Patterns o No impact.
Impacts same as noted for Action 12.8	Financial Direct Public Costs of Implementation o See below. Fiscal Effects on Local Governments o Local spills prevention and cleanup programs may require commitment of local fiscal resources. o Coordination of agency responses to chemical spills and sharing of facilities and equipment may lead to local cost savings. Institutional o Impacts same as noted for Action 12.8.	Impacts same as noted for Action 12.8.	Impacts same as noted for Action 12.8.

TABLE 5.1 - RURAL AND URBAN FRINGE WATERSHED PROBLEM AREAS

TABLE 5.1 - RURAL AND URBAN FRINGE WATERSHED PROBLEM AREAS

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	AREA AFFECTED # LAND-OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
Alameda County	• Cropland erosion	• North Livermore/Collier Area and isolated cases District-wide	• Soil erosion due to dryland farming on steep slopes.	17,500	46	10,000	High
	• Construction site erosion	• County Ridgelands	• Soil erosion due to road and housing construction activities in hillside areas.	3,000	7,000	42,500	High
	• Ranchette erosion	• District-wide, mainly in rural areas of Hayward	• Soil erosion due to construction of roads, housing pads, and overstocking of grazing animals in confined areas.	3,700	245	18,750	High
	• Rangeland erosion	• Mainly in eastern Alameda County	• Isolated cases of mismanagement of rangelands, resulting in soil loss due to overstocking of animals, improper distribution, overgrazing, etc.	58,000	90	15,000	Mod.
	• Soil salinity	• Coastal Plains near Union City • Northeast County east of Bethany Reservoir	• Potential salt accumulation due to lower quality of irrigation water and lack of subsurface drainage facilities	5,000	--	--	Low
Contra Costa County	• Soil erosion from subdivision and ranchette development	• Foothills east of San Ramon and south of Black Hills • Lime Ridge foothills east of Concord • Clayton Valley near Clayton • Foothills near Moraga • Foothills south and east of Antioch	• SCS considers soil erosion from subdivision and rural residential construction the most serious water quality problem in the County.	4,000	24	19,000	High

TABLE 5.1 - Cont'd.

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	AREA AFFECTED # LAND OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
Contra Costa County con't)	• Wind erosion	• Antioch, Oakley and Sand Hill areas	• Wind erosion due to combination of natural soil conditions, agricultural activities and surface mining.	700	7	1,250	High
	• Soil Salinity	• From Webb Tract south to Coney Island (eastern county)	• Excessive salt build-up due to irrigation practices.	2,700	9	1,500	High
	• Peat fires and land subsidence	• Delta Peat Lands in east county	• Soft peat soils lead to subsidence - area also subject to fires during dry summer months and potential flood area.	15,000	80	12,500	Low
	• Localized flooding	• Balfour Unit, Marsh Kellogg Watershed	• Area prone to flooding during periods of prolonged or intense rainfall.	6,000	20	30,000	High
	• Heavy metal pollution	• Mt. Diablo Mercury Mines	• Leachate from mine tailings and excavation has contaminated sections of Marsh Creek.	114	1	2,500	High
Dixon	• Construction site erosion and sedimentation	• Periphery of the City of Dixon	• Erosion due to construction activities.	1,100	1	1,500	High
	• Wind erosion	• Croplands District-wide	• Erosion of croplands due to natural soil conditions and agricultural activities	10,000	100	2,500	High
Loma Prieta	• Construction site erosion	• Morgan Hill and Gilroy • San Martin and other unincorporated areas of the county	• Excessive soil erosion due to construction of roads, housing and other structures.	1,400	1,400	35,000	High

TABLE 5.1 - Cont'd.

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	AREA AFFECTED # LAND-OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
Loma Prieta (con't)	• Ranchette erosion and other pollutants	• District-wide	• Soil erosion, nutrient and bacteriological impacts due to ranchette construction and mismanaged animal waste	5,000	300	7,500	High
	• Roadside erosion	• District-wide, but primarily in hill areas, east and west of Santa Clara Valley	• Considerable roadside erosion due to excessive grading and improper construction and maintenance.	--	--	2,500	High
Marin County	• Cropland erosion	• Pt. Reyes National Seashore • Isolated cases District-wide	• Wind and water erosion of croplands due to dryland farming activities and naturally erodible soil conditions.	2,000	10	10,000	Mod.
	• Pasture erosion	• Walker Creek and Lagunitas Creek Watersheds, other isolated cases District-wide	• Isolated gully and streambank erosion due in part to dairy operations, accelerated run-off and some livestock movement in stream areas. Includes Ranches throughout county.	45,000	60	25,000	High
	• Rural construction site erosion	• Nicasio and Lagunitas Creek watersheds	• Soil erosion due to construction activities in areas of steep slope, and erodible soils. Includes Ranchette construction.	2,600	undetermined	2,500	Low
	• Woodland erosion	• District-wide	• Natural soil erosion.	12,000	200	7,500	Mod.
Napa County	• Hillside vineyard erosion	• Western Napa Valley, from Calistoga to south County • Pope Valley • Chiles Valley	• Isolated cases of severe erosion and sedimentation due to expansion of vineyards onto steep terrain.	2,800	100	25,000	High

TABLE 5.1 - Cont'd.

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	AREA AFFECTED # LAND-OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
Napa County (con't)	• Streambank erosion	• Napa River and its tributaries	• Streambank erosion, siltation and high turbidity particularly during the rainy season.	5,000	200	12,500	High
	• Urban and rural construction site erosion	• Cities of Napa, St. Helena; Angwin and American Canyons; ranchette development in Southern Lake Berryessa.	• Erosion due to road and housing construction activities	10,000	200	12,500	Mod.
	• Rangeland erosion	• Western foothills of Napa County	• Erosion due to overgrazing, excessive livestock trailing, etc.	100,000	100	25,000	Mod.
Petaluma	• Cropland erosion	• Northeastern District near Petaluma • Western District near Marin Co. RCD border	• Soil erosion due to cultivation of dryland crops (hay) on steep slopes.	2,000	5	10,000	High
	• Pasture erosion	• District-wide	• Pasture and gully erosion due to dairy and livestock operations.	8,000	15	7,500	High
	• Construction site erosion	• Urban fringe around City of Petaluma • Isolated cases of ranchette erosion	• Erosion due to construction of roads, housing pads, and overgrazing of corral areas, ie, Ranchettes.	1,250	150	5,000	Mod.
San Mateo County	• Woodland erosion	• La Honda area • Pescadero area • Southern District (Santa Cruz Mountains)	• Erosion of woodland areas due to natural soil conditions and roads.	5,000	6	30,000	High

TABLE 5.1 - Cont'd.

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	AREA AFFECTED # OF LAND-OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
San Mateo County (con't)	• Slope slippage	• Santa Cruz Mountains from Highway 92 to La Honda area	• Isolated cases of slope slippage due to natural soil conditions.	50	30	500	Low
	• Gully and sheet erosion	• Moss Beach • Half Moon Bay • San Gregorio • Pescadero • Ano Nuevo	• Erosion due to cropland and pasture due to natural conditions and unsuitable management practices.	5,000	50	10,000	High
	• Other erosion (e.g. streambank erosion)	• Lake Lucerne Watershed • Pilarcitos Creek • Arroyo de los Frijoles	• Natural streambank erosion.	3,500	20	15,000	Mod.
Sonoma Valley	• Hillside vineyard erosion	• Sonoma Valley from Kenwood to City of Schellville	• Scattered cases of vineyard erosion due to cultivation on steep slopes.	2,850	45	7,500	High
	• Cropland erosion	• Eastern and western foothills of Sonoma Valley	• Soil erosion due to cultivation of dryland crops (hay) on steep slopes.	1,200	3	5,000	High
	• Pastureland erosion	• Foothills around Sonoma and Schellville	• Erosion due to dairy and livestock operations.	8,000	50	5,000	High
	• Construction site erosion	• Sonoma Area, scattered rural residential areas District-wide	• Erosion due to construction of roads, housing pads, and overgrazing of corral areas and ranchettes.	4,500	500	5,000	Mod.

TABLE 5.1 - Cont'd.

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	AREA AFFECTED # LAND-OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
Sotoyome-Santa Rosa	• Construction site erosion	• City of Santa Rosa • Stony Point Road • Southeast District between Bennett Valley Road and Annadel Stat Park	• Erosion due to construction of roads, housing. Problem is potentially serious around City of Santa Rosa.	--	--	7,500	High
	• Pasture erosion	• Pasture areas near Laguna de Santa Rosa • South Santa Rosa to Glen Ellen including Matanzas Creek • North Rohnert Park to Cotati	• Pasture erosion due to dairy operations.	20,000	10	3,750	High
	• Vineyard erosion	• Northern Sonoma County vineyards in Russian River watershed	• Vineyard erosion due to cultivation on steep slopes and expansion of new vineyards on unsuitable site (e.g. landslide areas, areas of poor drainage).	9,000	--	7,500	High
	• Woodland erosion	• Areas west of Cloverdale • North western district including the Gualala River, Russian Gulch & Austin Creek Watersheds	• Soil erosion due to road construction, logging operations, fires, and natural soil conditions.	11,500	95	1,250	Low
	• Rangeland erosion	• Lake Sonoma Watershed • Squaw Creek and Big Sulphur Creek Watershed east of Cloverdale	• Isolated cases of rangeland erosion due to improper management practices.	92,000	--	2,500	Mod.

TABLE 5.1 - Cont'd.

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	AREA AFFECTED # LAND-OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
Sotoyome-Santa Rosa (con't)	• Rangeland erosion (con't)	• Areas near Laguna de Santa Rosa	(see previous page)				
	• Erosion due to Geothermal Exploration	• Northeast Sonoma County	• Potential erosion due to construction of roads, drilling pads, etc.	25,000	2	1,250	Low
Suisun	• Construction site erosion	• City of Fairfield • Suisun City • Cordelia and adjacent area	• Erosion due to construction of roads, housing, etc.	500	3 (cities themselves)	25,000	High
	• Wind erosion	• Potrero & Montezuma Hills • Peatlands in South District	• Wind erosion of dry farmed croplands and peatlands.	1,000	undetermined	2,500	High
Ulatis	• Construction site erosion and sedimentation	• City of Vacaville • Pleasant Valley • English Hills • Allendale	• Erosion and sedimentation due to land leveling operations and grading for housing pads and access roads.	10,000	750	7,500	High
	• Other water and wind erosion	• Isolated areas District-wide	• Wind and water erosion of croplands, streambank erosion.	70,000	250	2,500	High

TABLE 5.1 - Cont'd.

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	AREA AFFECTED # LAND OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
Evergreen	• Construction site erosion	• Calabazas Creek Watershed • Montebello Ridge • Chemaketa Park • Cupertino and Saratoga areas • Redwood Estates • Aldercroft Heights • Soda Springs, Bollinger and Summit Roads • Almaden area including Kennedy Road • Sierra, Calaveras, and Felter Road areas	• Soil erosion due to construction of roads and housing developments in areas of steep slopes or generally unstable soil conditions (e.g. Santa Clara Formation)	3,825	315	10,000	High
	• Ranchette erosion	• Concentrated animal ranchettes are located throughout the periphery of Santa Clara Valley	• Soil erosion due to road and housing construction and over-stocking of grazing animals in confined areas. Other impacts include nutrient and bacteriological pollution due to animal waste	300	200	12,500	High
	• Soil erosion from off road Motorcycle Park	• Metcalf Road	• Severe soil erosion due to heavy use of motorcycles in hill areas	500	2	2,000	High
	• Natural landslide areas, rangeland erosion	• Northeast of Anderson Reservoir	• Isolated soil erosion and potential serious erosion with improper range management.	1,500	1	2,500	High

TABLE 5.1 - Cont'd.

RESOURCE CONSERVATION DISTRICT	PROBLEM CATEGORY	LOCATION	PROBLEM DESCRIPTION	AREA AFFECTED # ACRES	# LAND-OWNERS	ESTIMATED PLANNING COSTS	PRIORITY
Evergreen (Con't)	• Rangeland erosion	• Rangelands east of Calaveras Reservoir • Beauregard Rd. area	• Isolated cases of soil erosion due to improper range management. Potentially critical area if improperly cleared or burned	1,200	2	2,500	Mod.
	• Mine dump soil erosion	• Abandoned Magnesite Mines • District-wide	• Potential problem area due to mine trailings and excavation • Soil erosion due to improper range management	200	2	1,000	Mod.
	• Trace metal pollution	• Abandoned mercury mines in the Almaden area, including areas near Kennedy Rd. and Almaden Reservoir	• Excessive concentrations of mercury detected in the bottom sediments of Alameden, Calevo, and Guadalupe Reservoirs and tributary streams.	200	1	1,000	Mod.

RESOLUTION ADOPTING MODIFICATIONS TO THE
TWENTY-YEAR WASTEWATER FACILITIES NEEDS LIST

and

THE TWENTY-YEAR WASTEWATER FACILITIES NEEDS LIST

(REPLACING SECTION J, CHAPTER III, VOL. I,
ENVIRONMENTAL MANAGEMENT PLAN, JUNE 1978)

ASSOCIATION OF BAY AREA GOVERNMENTS
GENERAL ASSEMBLY RESOLUTION 5-79
MODIFICATIONS TO THE TWENTY-YEAR WASTEWATER FACILITIES NEEDS LIST

WHEREAS, the General Assembly adopted the Environmental Management Plan for the San Francisco Bay Region on June 10, 1978; and

WHEREAS, such plan contained a twenty-year list of wastewater treatment facilities needs; and

WHEREAS, Federal law provides that this list be updated annually; and

WHEREAS, the California Administrative Code provides that grant eligible capacity for projects on the twenty-year list shall be based on projections prepared by the regional council of governments; and

WHEREAS, ABAG has prepared and circulated PROJECTIONS 79 for public review; and

WHEREAS, by Resolution 4-79 the General Assembly has approved PROJECTIONS 79 for regional planning use until revised as provided in Resolution 4-79; and

WHEREAS, PROJECTIONS 79, as adopted for planning use, affects the timing of certain projects on the twenty-year list contained in the June 1978 version of the Environmental Management Plan; and

WHEREAS, a revised twenty-year list of wastewater treatment facilities needs has been prepared and circulated for public review concurrently with the review of PROJECTIONS 79; and

WHEREAS, such list is consistent with PROJECTIONS 79; and

WHEREAS, corrections made to the list by ABAG staff were found by the Executive Board to be consistent with PROJECTIONS 79, as adopted by the Executive Board on September 20, 1979, and the Environmental Management Plan;

NOW THEREFORE BE IT

RESOLVED, that the General Assembly adopts the revised twenty-year list of wastewater treatment facilities needs, as shown in Attachment A and incorporated herein by reference, replacing the list adopted by the General Assembly in June 1978; and be it further

RESOLVED, that the Executive Board is directed to modify such list as necessary to ensure consistency with any changes made to PROJECTIONS 79 and subsequent projections as a result of the modification process established by Resolution 4-79; and be it further

RESOLVED, that the Executive Board is directed to modify such list as necessary, but no more frequently than quarterly, to incorporate other updated information that is consistent with the then current projections; and be it further

RESOLVED, that the Executive Board is directed to report on any modifications to the project list at the next and subsequent meetings of the General Assembly.

The foregoing resolution was approved by the General Assembly this 3rd day of November, 1979.

Signed:

Rod Diridon
President

Attest:

Revan A.F. Tranter
Secretary-Treasurer

MUNICIPAL WASTEWATER FACILITIES

ALAMEDA COUNTY

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps[a]	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
East Bay Municipal Utility District, Special Dist. No. 1	1246	EBMUD wet weather facilities- primary	1- 2- 7,000,000 3- 150,000,000		2	3																				
EBMUD	1246	EBMUD collection system rehabilitation	2- 4,000,000 3- 50,000,000		2	3																				
EBMUD	1246	EBMUD wastewater reclamation facilities	1- 2- 1,000,000 3- 9,600,000	2	3																					
EBMUD	1246	EBMUD wet weather facilities- secondary	1- 2- 5,000,000 3- 100,000,000					2	3																	
EBMUD	1685	EBMUD wastewater solids management facility	1- 2- 2,200,000 3- 22,000,000		2	3																				
City of Albany	1756	Collection sewers	1- 7,000 2- 13,000 3- 130,000				1		2	3																
City of Oakland	1775	Collection and transport facilities for Skyline and Panoramic Areas	1- 30,000 2- 85,000 3- 1,085,000				1	2	3																	
Alameda County	1774	Wastewater management for unsewered areas of Eden Township and unincorporated canyon areas	1- 30,000 2- 3-				1 (unscheduled) (unscheduled)	3																		
City of San Leandro	1431	Reclamation project	2- 96,000 3- 1,600,000		2	3																				

[a]Step 1 - Facilities planning; Step 2 - Preparation of plans and specifications; Step 3 - Construction.

Adopted by the General Assembly 11/3/79
Amended by the Executive Board 12/20/79

ALAMEDA COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps[a]	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
East Bay Dischargers Authority	0868	Control System	1- 2- 3- 2,000,000	3																						
East Bay Dischargers Authority	0868	Alvarado Treatment Plant and Pump Station	1- 2- 3- 33,300,000	3																						
East Bay Dischargers Authority	0868	Hayward Secondary Treatment and Solids Handling Facilities	1- 2- 1,015,500 3- 11,390,000		2	3																				
East Bay Dischargers Authority	1732	Oro Loma - Castro Valley solids handling facilities	1- 20,000 2- 50,000 3- 1,150,000			1	2	3																		
East Bay Dischargers Authority	1733	Oro Loma - Castro Valley wet weather facilities	1- 40,000 2- 200,000 3- 2,000,000			1	2	3																		
East Bay Dischargers Authority	1715	Hayward Plant expansion	1- 120,000 2- 1,200,000 3- 12,000,000	(unscheduled) (unscheduled)	1																					
East Bay Dischargers Authority	1428	Wastewater reclamation project	1- 2- 3,000,000 3- 30,000,000		2	3																				
East Bay Dischargers Authority	0868	San Leandro Secondary Treatment and Solids Handling Facilities	1- 2- 3- 5,325,000		3																					

ALAMEDA COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps[a]	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000 2001
Castro Valley S.D.	1760	Castro Valley collection sewers	1-	30,000				1																			
			2-	180,000						2																	
			3-	2,790,000								3															
LAVWMA	1572	Facilities plan for wastewater reclamation in Livermore-Amador area	2-	600,000	(unscheduled)																						
			3-	6,000,000	(unscheduled)																						
City of Livermore	1429	Livermore plant expansion, possible wastewater reclamation project	1-																								
			2-	640,000	2																						
			3-	10,200,000		3																					
City of Livermore	2236	Land acquisition for expansion of reclamation	1-	5,000			1																				
			2-	50,000			2																				
			3-	2,070,000				3																			
City of Livermore	1719	Land acquisition and spray irrigation facilities	1-	60,700					1																		
			2-	607,400					2																		
			3-	6,074,500						3																	
Dublin San Ramon Services District	1125	Plant expansion to consolidate with Pleasanton	1-																								
			2-																								
			3-	6,461,000	3																						
East Bay Dischargers Authority	1749	Union S.D. plant expansion and possible upgrading	1-	60,000		1																					
			2-				2																				
			3-						3																		
City of Livermore	1718	Plant expansion	1-	45,000									1														
			2-		(Unscheduled)																						
			3-		(Unscheduled)																						
Alameda County County Service Area R-1967-1		Interceptor construction to consolidate Castlewood with Dublin San Ramon Service District	1-	5,000	1																						
			2-		(unscheduled)																						
			3-		(unscheduled)																						
Alameda County Zone T		Wastewater management for unsewered areas outside LAVWMA	1-	50,000	1																						
			2-		(unscheduled)																						
			3-		(unscheduled)																						

CONTRA COSTA COUNTY

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps[a]		FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
West County Agency	1154	Construction of Point Richmond outfall	3-	8,500,000	3																						
West County Agency	1154	Construction of Richmond STP miscellaneous improvements	3-	3,500,000	3																						
West County Agency	1154	Construction of San Pablo effluent pump station	3-	1,600,000	3																						
West County Agency	1154	Construction of San Pablo to Richmond force main	3-	9,000,000	3																						
West County Agency	1154	Design of San Pablo wet weather facilities, treatment plant rehabilitation & solids handling	2-	2,500,000	2																						
West County Agency	1154	Construction of San Pablo STP wet weather facilities and sludge lagoons	3-	18,000,000	3																						
West County Agency	1154	Construction of San Pablo Treatment Plant modifications	3-	2,000,000	3																						
West County Agency	1154	Design of Richmond Treatment Plant wet weather facilities plant modification & infiltration/inflow corrections	2-	2,000,000	2																						
West County Agency	1154	Construction of Richmond STP wet weather facilities	3-	10,000,000	3																						
West County Agency	1154	Construction of Richmond Treatment Plant modifications	3-	12,000,000	3																						
West County Agency	1154	Construction of Richmond collection system rehabilitation to eliminate excessive infiltration/inflow	3	8,000,000	3																						

CONTRA COSTA COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps[a]	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
West Contra Costa Sanitary District	1443	Wastewater reclamation facilities	1- 2- 240,000 3- 4,000,000		2 3																					
West Contra Costa Sanitary District		Collection system improvements in El Sobrante	1- 2- 100,000 3- 500,000		2 3																					
West Contra Costa Sanitary District	1154	Solids disposal and energy recovery facilities	1- 100,000 2- 2,000,000 3- 10,000,000		1	2	3																			
City of Pinole	1577	Plant modifications for Pinole-Hercules	1- 2- 3- 300,000	3																						
City of Pinole	1577	Plant expansion	1- 2- 200,000 3- 2,700,000			1	2	3																		
City of Pinole	1577	Transport and disposal facilities for Pinole-Hercules	1- 2- 3- 2,765,000	3																						
City of Hercules	2390	Wastewater recycling project testing	1- 2- 90,000 3- 750,000			2	3																			
Rodeo Sanitary District	2407	Rodeo Sanitary District plant expansion	1- 50,000 2- 200,000 3- 2,000,000		(Unscheduled) (Unscheduled)					1																
Rodeo Sanitary District	2409	Collection sewers improvements and expansion	1- 10,000 2- 40,000 3- 300,000													1	2	3								
Rodeo Sanitary District	2408	Solids handling facilities	1- 20,000 2- 80,000 3- 600,000																		1	2	3			

CONTRA COSTA COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps[a]	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
					FISCAL YEAR (AND ASSIGNED STEPS)																						
Mt. View Sanitary District	1241	Facilities necessary to comply with NPDES declorination and 10:1 dilution requirements	1-	20,000	1																						
			2-	21,000			2																				
			3-	274,000			3																				
Mt. View Sanitary District	1721	Elimination of bypasses and overflows	1-	14,000				1																			
			2-	31,000						2																	
			3-	355,000							3																
Contra Costa County Sanitary District No. 5	1242	Port Costa upgrading treatment to secondary level	1-																								
			2-	20,000		2																					
			3-	300,000		3																					
Contra Costa County Sanitary District No. 5	1761	Collection sewers	1-	3,000				1																			
			2-	5,000						2																	
			3-	42,000							3																
Central Contra Costa Sanitary District (C.C.C.S.D.)	1000	C.C.C.S.D. secondary plant expansion	1-																								
			2-	77,000		2																					
			3-	5,694,000		3																					
C.C.C.S.D.	1269	C.C.C.S.D. solids disposal and energy recovery facilities - stage 1	1-	2,215,000		1																					
			2-	650,000			2																				
			3-	6,500,000				3																			
C.C.C.S.D.	1269	C.C.C.S.D. solids disposal and energy recovery facilities- stage 2	1-																								
			2-	1,600,000				2																			
			3-	16,000,000					3																		
C.C.C.S.D.	1269	C.C.C.S.D. - RDF combustion, energy generation and processing facilities-stage 3																									
C.C.C.S.D.	1776	Wastewater management for parts or Moraga and Orinda	1-	40,000				1																			
			2-		(unscheduled)																						
			3-		(unscheduled)																						
City of Concord	1772	Collection sewers (Stage II)	1-	36,000			1																				
			2-	181,650					2																		
			3-	1,816,500						3																	
City of Concord	1772	Collection sewers (Stage III)	1-																								
			2-	179,800					2																		
			3-	1,789,500						3																	
Contra Costa County Sanitation District No. 7A	1002	C.C.C.S.D. No. 7A subregional facilities	1-																								
			2-																								
			3-	38,000,000		3																					
Contra Costa County Sanitation District No. 7A	1759	Collection sewers	1-	25,000			1																				
			2-	59,000						2																	
			3-	735,000							3																
Contra Costa County Sanitation District No. 7A	2396	Sludge disposal facilities	1-	10,000		1																					
			2-	30,000		2																					
			3-	400,000			3																				

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps[a]	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
Contra Costa County Sanitation District No. 7A	2399	Expansion of secondary treatment and sludge disposal facilities	1- 100,000 2- 3-			(Unscheduled) (Unscheduled)			1																	
Contra Costa County Sanitation District No. 7A	2398	Wastewater reclamation facilities	1- 150,000 2- 900,000 3-14,000,000			1		2	3																	
Contra Costa County Sanitation District No. 7A	2395	Relief facilities for conveyance system	1- 100,000 2- 500,000 3-11,600,000													1		2			3					
Oakley Sanitary District-- C.C.C.S.D. No. 15	1416	Oakley Sanitary District treatment plant and disposal facilities	1- 2- 3- 1,000,000		3																					
Oakley Sanitary District- C.C.C.S.D. No. 15		Expansion of secondary treatment and effluent disposal facilities; relief of conveyance system; addition of sludge processing and disposal facilities	1- 30,000 2- 3-			(Unscheduled) (Unscheduled)			1																	
City of Brentwood	1415	Brentwood disposal facilities	1- 2- 3- 150,000		3																					
City of Brentwood		Expansion of secondary treatment and effluent disposal facilities; addition of sludge processing and disposal facilities	1- 15,000 2- 3-			(Unscheduled) (Unscheduled)					1															
C.C.C.S.D. No. 19		Evaporation-percolation ponds and flood protection	1- 20,000 2- 200,000 3- 2,200,000			1 2 3																				
C.C.C.S.D. No. 19		Expansion of evaporation-percolation ponds	1- 2,000 2- 3-			(Unscheduled) (Unscheduled)					1															
Contra Costa County Water District	2237	Expansion of the ion exchange softening plant for reclaimed wastewater (from 15 mgd to 30 mgd)	1- 50,000 2- 150,000 3- 1,300,000			(unscheduled) (unscheduled)			1																	
Contra Costa County	1514	Facilities plan for countywide septage study	1- 25,000 2- 3-		(Unscheduled)																					
Contra Costa County	2052	Sand Hill wastewater management facilities	1- 16,000 2- 38,000 3- 446,000		1		2		3																	
Contra Costa County	2400	East Contra Costa County treatment facilities expansion	1- 10,000 2- 100,000 3- 1,000,000		(Unscheduled) (Unscheduled)				1																	
C.C.C.S.D.	1750	C.C.C.S.D. secondary plant expansion and upgrading to advanced treatment	1- 480,000 2- 2,400,000 3- 48,000,000						1	2	3															

CONTRA COSTA COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps[a]	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
					FISCAL YEAR (AND ASSIGNED STEPS)																						
C.C.C.S.D.		Wet weather facilities	1-	319,000		1																					
			2-			(unscheduled)																					
			3-			(unscheduled)																					
C.C.C.S.D.	2403	Improvement of holding basin	1-	5,000		1																					
			2-	35,000		2																					
			3-	700,000			3																				

MARIN COUNTY

FISCAL YEAR (AND ASSIGNED STEPS)

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps^	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	* 2000-2001
Richardson Bay Sanitary District	1773	Collection sewers	1- 16,000				1																			
			2- 38,000						2																	
			3- 446,000							3																
Richardson Bay Sanitary District	1599	Collection sewers for area with prohibition and time schedule--Greenwood Beach	2- 30,000	2																						
			3- 140,000		3																					
City of Sausalito	1767	Collection sewers	1- 3,000				1																			
			2- 5,000						2																	
			3- 42,000							3																
City of Mill Valley	1764	Collection sewers	1- 10,000				1																			
			2- 19,000						2																	
			3- 201,000							3																
City of Mill Valley	1409	Reclamation facilities	1-																							
			2- 40,000		2																					
			3- 400,000			3																				
Homestead Valley Sanitary District	1762	Collection sewers	1- 7,000				1																			
			2- 13,000					2																		
			3- 130,000						3																	
Marin County Sanitation District No. 1	1763	Collection sewers	1- 30,000				1																			
			2- 85,000						2																	
			3- 1,085,000							3																
Las Gallinas Valley Sanitary District and Marin Municipal Water District	1256	Reclamation facilities	1-																							
			2-																							
			3- 1,500,000	3																						
Las Gallinas Valley S.D.	1757	Collection sewers	1- 35,000				1																			
			2- 105,000					2																		
			3- 1,460,000						3																	
Sausalito/Marin City S.D.	2464	Upgrade outfall	1-																							
			2- 315,000		2																					
			3- 4,500,000			3																				
Marin County S.D. #5	2465	Upgrade Tiburon treatment plant	1-																							
			2- 303,000		2																					
			3- 4,400,000			3																				
Sewer Agency of So. Marin	2466	Upgrade Mill Valley and Richardson Bay plants and outfall	1-																							
			2- 1,645,000		2																					
			3- 16,300,000			3																				
Central Marin Sanitation Agency	2467	Construction of new treatment plant and outfall	1-																							
			2- 4,050,000		2																					
			3- 40,500,000			3																				
Novato Sanitary District		Treatment facilities expansion in eastern Marin	1- 22,000																							
			2-			(Unscheduled)																				
			3-			(Unscheduled)																				
Marin Municipal Water District and Marin County Sanitation District No.1	1257	Reclamation facilities -- lower Ross Valley	1-																							
			2- 20,000		2																					
			3- 200,000			3																				
Marin County	1780	Wastewater management in unsewered areas of San Geronimo Valley	1- 35,000				1			(unscheduled)																
			2-							(unscheduled)																
			3-																							

MARIN COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps[a]	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
North Marin County Water District	1313	Olema and Point Reyes National Seashore Headquarters treatment and land disposal facilities	1- 2- 3-	 80,000 1,000,000		2 3																					
North Marin County Water District	1285	Point Reyes Station treatment and disposal facilities	1- 2- 3-	 80,000 1,000,000		2 3																					
Stinson Beach County Water District	1207	Sewage management for unsewered areas	1- 2- 3-	 100,000 1,000,000	2	3																					
Bolinas Community PUD	1727	Sewage management for unsewered areas	1- 2- 3-	50,000				1 (unscheduled) (unscheduled)																			
California Dept. of Parks and Recreation	1781	Muir Beach collection, treatment, and disposal facilities	1- 2- 3-	30,000 85,000 1,085,000			1		2	3																	
California Dept. of Parks and Recreation	1317	Angel Island State Park interceptor sewer and land disposal facilities	1- 2- 3-	 100,000 750,000	2		3																				
City of Tiburon	2394	Compliance with NPDES requirements	1- 2- 3-	20,000		1	2 3																				
San Rafael Sanitation District	2468	Upgrade Marin Bay treatment plant and reclamation project	1- 2- 3-	 170,000 1,700,000		2	3																				
Las Gallinas Valley Sanitary District	2469	Upgrade Las Gallinas treatment plant and reclamation project	1- 2- 3-	 340,000 7,500,000		2	3																				
Novato Sanitary District	2470	Upgrade treatment plant and reclamation project	1- 2- 3-	 1,100,000 18,000,000		2	3																				

NAPA COUNTY

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
					FISCAL YEAR (AND ASSIGNED STEPS)																						
City of Calistoga	1758	Collection sewer	1-	10,000				1																			
			2-	21,000						2																	
			3-	219,000							3																
City of Calistoga		Expand reclamation facilities and boron control study	1-	10,000		1																					
			2-			(Unscheduled)																					
			3-			(Unscheduled)																					
Napa Sanitary District and Carneros Water District	1437	Facilities plan for reclamation potential	1-																								
			2-	750,000		2																					
			3-	5,750,000		3																					
Napa Sanitation District	1769	Collection sewer	1-	30,000				1																			
			2-	185,000						2																	
			3-	2,835,000							3																
City of St. Helena	1316	Upgrading treatment and complying with Basin Plan objectives	1-																								
			2-	66,000	2																						
			3-	2,300,000		3																					
City of St. Helena	1753	Thomas Lane interceptor	1-	4,000				1																			
			2-	6,000						2																	
			3-	60,000							3																
Napa County	1314	Treatment and/or transport for unsewered Community-Edgerly Island	1-																								
			2-	30,000		2																					
			3-	1,200,000			3																				
Napa County	1525	Facilities plan for countywide septage study	1-	25,000		(Unscheduled)																					
			2-			(Unscheduled)																					
			3-			(Unscheduled)																					
Napa County	1779	Collection and treatment system for unsewered area of Angwin	1-	25,000				1																			
			2-	145,000					2																		
			3-	2,120,000						3																	

SAN FRANCISCO

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps[a]	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
				FISCAL YEAR (AND ASSIGNED STEPS)																						
San Francisco City and County	1252	Ocean outfall	1- 2- 3- 190,000,000		3																					
San Francisco City and County	1253	West Side pump station	1- 2- 3- 40,000,000	3																						
San Francisco City and County	1253	West Side transport - Phase I	1- 2- 3- 9,000,000		3																					
San Francisco City and County	1253	West Side transport - Phase II	1- 2- 3,500,000 3- 35,000,000		2	3																				
San Francisco City and County	1253	West Side transport - Lake Merced	1- 2- 5,000,000 3- 50,000,000					2	3																	
San Francisco City and County	1289	Southwest dry weather primary and secondary plant	1- 2- 10,000,000 3- 260,000,000		2	3																				
San Francisco City and County	1399	Islais Creek pump station and storage facilities	1- 2- 5,000,000 3- 200,000,000			2	3																			
San Francisco City and County	1399	Sunnydale/South Basin facilities	1- 2- 5,000,000 3- 100,000,000			2	3																			
San Francisco City and County	1399	North-South highlevel crosstown transport-Stage I	1- 2- 5,000,000 3- 250,000,000			2	3																			
San Francisco City and County	1399	North-South Highlevel Crosstown transport - Stage II	1- 2- 5,000,000 3- 250,000,000				2	3																		
San Francisco City and County	1399	Mariposa Basin facilities	1- 2- 8,000,000 3- 80,000,000					2	3																	
San Francisco City and County	1315	Long Cabin Ranch School treatment plant additions	1- 6,000 2- 8,000 3- 63,000	(unscheduled) (unscheduled) (unscheduled)																						
San Francisco City and County	1683	Wastewater solids management facilities	1- 300,000 2- 3,000,000 3- 30,000,000		1		2	3																		
Port of San Francisco	1772	Collection sewers	1- 12,000 2- 24,000 3- 264,000	(unscheduled) (unscheduled)			1																			
San Francisco City and County	1247	North Point conversion for wet weather and transport to Southeast	1- 100,000 2- 200,000 3- 2,000,000	1		2 3																				
San Francisco City and County		West Side Transport- Great Highway	3- 100,000,000		3																					

SAN MATEO COUNTY

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps a		FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
South Bayside System Authority	1603	Facilities plan for wastewater reclamation	1-	50,000	1																						
South Bayside System Authority	1603	Wastewater reclamation project for industrial use and landscape irrigation	1-																								
			2-	150,000		2																					
			3-	3,000,000		3																					
South Bayside System Authority	1731	Subregional plant expansion	1-	50,000				1									1										
			2-	350,000					2																		
			3-	8,000,000						3																	
City of Redwood City		Facilities plan for reclamation	1-	30,000	1																						
City of Redwood City		Wastewater reclamation project for landscape irrigation	1-																								
			2-	206,000		2																					
			3-	3,364,000			3																				
City of Redwood City	1736	Collection sewers near Emerald Lake Hills	1-	8,000				1																			
			2-	75,000						2																	
			3-	658,000							3																
Menlo Park Sanitary District	1735	Wastewater management for Portola Valley and Woodside	1-	50,000		1																					
			2-																								
			3-																								
Menlo Park Sanitary District		Wastewater reclamation	1-		1																						
			2-	130,000		2																					
			3-	2,500,000		3																					
City of San Mateo	1445	Facilities plan for reclamation potential	1-	30,000		1																					
			2-	100,000		2																					
			3-	1,000,000			3																				
City of San Mateo		Collection system repairs	1-	60,000			1																				
			2-	600,000				2																			
			3-	7,000,000					3																		
Cities of San Mateo and Foster City	1734	Plant expansion	1-	25,000			1																				
			2-	500,000		(Unscheduled)																					
			3-	5,000,000		(Unscheduled)																					
City of Foster City	1604	Wastewater reclamation project re-using treated wastewater within Foster City	1-	28,000	1																						
			2-	320,000		2																					
			3-	3,252,000			3																				
North Bayside System Unit	2239	Facilities plan for wastewater reclamation	1-	20,000						1																	
North Bayside System Unit Agency	2239	Wastewater reclamation project for industrial use	2-	280,000		(Unscheduled)																					
			3-	6,000,000		(Unscheduled)																					

SAN MATEO COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps[a]	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
City of Millbrae	1440	Pump station and interceptor	1-	15,000	1																						
			2-	11,000	2																						
			3-	500,000		3																					
City of Millbrae	2241	Facilities plan for wastewater reclamation	1-	5,000						1																	
City of Millbrae	2241	Reclamation facilities	1-																								
			2-	50,000	(unscheduled)																						
			3-	500,000	(unscheduled)																						
City of Burlingame	1444	Facilities plan for reclamation potential	1-																								
			2-	100,000	2																						
			3-	2,000,000		3																					
City of Burlingame	1754	Construction of trunk sewers to control wet weather flow	1-	25,000				1																			
			2-	35,000						2																	
			3-	300,000							3																
San Francisco International Airport	1737	San Francisco Airport plant improvement to meet requirements	1-	20,000		1																					
			2-	280,000				2																			
			3-	6,000,000					3																		
San Francisco International Airport	2238	Facilities plan for wastewater reclamation	1-	20,000						1																	
San Francisco International Airport	2238	Wastewater reclamation project re-using treated wastewater for landscape irrigation within the Airport	1-																								
			2-	280,000	(unscheduled)																						
			3-	10,000,000	(unscheduled)																						
Town of Colma	1441	Sewage interceptor system	1-																								
			2-	54,000	2																						
			3-	1,300,000		3																					
Bayshore Sanitary District	1600	Facilities plan for wastewater reclamation	1-	35,000	1																						
Bayshore Sanitary District	1600	Wastewater reclamation project	2-	70,000		2																					
			3-	950,000			3																				
North San Mateo County S.D.	1439	Facilities plan for ultimate subregional sludge disposal	1-	25,000	1																						
			2-		(unscheduled)																						
			3-		(unscheduled)																						
North San Mateo County S.D.	917A	Reclaimed wastewater outfall- Stage I	1-																								
			2-																								
			3-	685,000	3																						

SAN MATEO COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps [a]	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000 2001
North San Mateo County S.D.	917A	Reclaimed wastewater outfall - Stage II	2-	300,000	2																						
			3-	2,943,000		3																					
City of Pacifica	1738	Infiltration/inflow study and necessary sewer repairs to eliminate by-passing and overflows of untreated sewage	1-	80,000				1																			
			2-	200,000						2																	
			3-	1,800,000							3																
City of Pacifica	2240	Wastewater reclamation project for landscape irrigation	1-	30,000						1																	
			2-																								
			3-																								
Sewer Authority Mid-Coastside	1022	Subregional facilities for Half Moon Bay, Montara, and Granada	1-																								
			2-																								
			3-	5,600,000		3																					
Sewer Authority Mid-Coastside	1022	Ocean outfall	1-																								
			2-																								
			3-	1,200,000	3																						
San Mateo County	1436	Collection system for Emerald Lakes Hills	1-																								
			2-	580,000		2																					
			3-	5,300,000			3																				
San Mateo County	1782	Wastewater management for unsewered areas--Cuesta La Honda	1-	35,000				1																			
			2-						(Unscheduled)																		
			3-						(Unscheduled)																		
San Mateo County	1783	Wastewater management for unsewered areas--Redwood Terrace	1-	18,000				1																			
			2-						(Unscheduled)																		
			3-						(Unscheduled)																		
San Mateo County	1784	Wastewater management for unsewered areas--Woodside Highland	1-	30,000				1																			
			2-						(Unscheduled)																		
			3-						(Unscheduled)																		
San Mateo County	1785	Wastewater management for unsewered areas--Stonegate	1-	18,000				1																			
			2-						(Unscheduled)																		
			3-						(Unscheduled)																		
San Mateo County	1786	Wastewater management for unsewered areas--Los Trancos Woods	1-	35,000				1																			
			2-						(Unscheduled)																		
			3-						(Unscheduled)																		

SAN MATEO COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps[a]	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-200
San Mateo County	1787	Wastewater management for unsewered areas--Paloma Park	1- 2- 3-	35,000				1 (Unscheduled) (Unscheduled)																		
San Mateo County	1788	Wastewater management for unsewered areas--Arrowhead Meadows	1- 2- 3-	30,000				1 (Unscheduled) (Unscheduled)																		
San Mateo County	1789	Wastewater management for unsewered areas--Alpine Hills	1- 2- 3-	35,000				1 (Unscheduled) (Unscheduled)																		
San Mateo County	1790	Wastewater management for unsewered areas--Woodside Hills	1- 2- 3-	35,000				1 (Unscheduled) (Unscheduled)																		
San Mateo County	1791	Wastewater management for unsewered areas--Vista Verde	1- 2- 3-	35,000				1 (Unscheduled) (Unscheduled)																		
San Mateo County	1792	Wastewater management for unsewered areas--unincorporated areas in Skylonda	1- 2- 3-	35,000				1 (Unscheduled) (Unscheduled)																		
San Mateo County	1794	Wastewater management for unsewered areas--Canada Road	1- 2- 3-	18,000				1 (Unscheduled) (Unscheduled)																		
City of Burlingame		Burlingame plant expansion	1- 2- 3-	40,000 400,000 4,000,000												1		2	3							

SANTA CLARA COUNTY

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps [a]	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
				FISCAL YEAR (AND ASSIGNED STEPS)																						
City of Sunnyvale		Plant expansion	1- 43,000				1																			
			2-				(Unscheduled)																			
			3-				(Unscheduled)																			
City of Palo Alto		Plant expansion	1- 40,000													1										
			2-		(unscheduled)																					
			3-		(unscheduled)																					
City of San Jose	1751	Collection system repairs	1- 50,000			1																				
			2- 225,000					2																		
			3- 2,225,000						3																	
City of San Jose	1605	Facilities for reclamation--landscape golf course and agricultural irrigation	1-																							
			2- 100,000		2																					
			3- 1,000,000			3																				
City of Santa Clara	1438	Northside pump station and force main enlargement	1- 12,000			1																				
			2- 120,000					2																		
			3- 1,200,000						3																	
City of Santa Clara	1768	Collection sewers	1- 16,000				1																			
			2- 37,000						2																	
			3- 427,000							3																
City of Santa Clara	1602	Reclamation project	1- 12,000		1																					
			2- 110,000		2																					
			3- 1,100,000			3																				
Cupertino S.D. and City of Santa Clara	1739	Interceptor sewer	1- 35,000				1																			
			2- 130,000						2																	
			3- 1,835,000							3																
Milpitas S.D.	1765	Collection sewers	1- 18,000				1																			
			2- 42,000						2																	
			3- 490,000							3																
Cities of San Jose and Santa Clara	1381	Solids handling facilities and sludge disposal facilities	1-																							
			2- 1,500,000		2																					
			3- 30,000,000		3																					

SANTA CLARA COUNTY (Continued)

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps [a]	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
Santa Clara Valley Water District	1606	South Santa Clara Valley water reuse study -- joint subregional project	1-		1																						
			2-			(Unscheduled)																					
			3-			(Unscheduled)																					
Santa Clara Valley Water District	1403	Joint water reclamation project between Milpitas S.D. and Santa Clara Valley W.D.	1-																								
			2-	1,000,000		2																					
			3-	10,000,000			3																				
Santa Clara Valley Water District	1607	Evaluation of expanded salt water intrusion barrier for South Bay	1-	20,000		1																					
			2-																								
			3-																								
Santa Clara Valley Water District	1607	Design and construction of expanded salt water intrusion barrier for South Bay	1-																								
			2-	100,000		2																					
			3-	1,000,000		3																					
South Bay Dischargers Authority	1135	Subregional interceptor and outfall	1-																								
			2-	6,000,000			(Unscheduled)																				
			3-	100,000,000			(Unscheduled)																				
Santa Clara County S.D. No. 4	1776	Lake Canyon and Montevina collection sewers	1-	8,000				1																			
			2-	16,000						2																	
			3-	166,000							3																
City of Morgan Hill	1816	Interceptor from Morgan Hill to Gilroy	1-	35,000			1																				
			2-	130,000					2																		
			3-	1,835,000						3																	
City of Gilroy	1019	Gilroy-Morgan Hill joint secondary plant	1-																								
			2-																								
			3-	7,300,000	3																						
City of Gilroy		Plant expansion	1-	20,000				1																			
			2-			(Unscheduled)																					
			3-			(Unscheduled)																					
Santa Clara County		Wastewater management for unsewered areas -- San Martin	1-	12,000				1																			
			2-			(Unscheduled)																					
			3-			(Unscheduled)																					
Cities of San Jose and Santa Clara	1740	Primary treatment facilities addition	1-	7,000				1																			
			2-	70,000						2																	
			3-	702,000							3																
Cities of San Jose and Santa Clara	1741	Expansion of advanced treatment facilities	1-	78,000									1														
			2-	784,000										2													
			3-	7,846,000											3												
Santa Clara County	2391	Wastewater management study for unsewered area - Highway Corridor 17 Los Gatos Creek Watershed	1-	40,000		1																					
			2-			(Unscheduled)																					
			3-			(Unscheduled)																					

SOLANO COUNTY

Implementing Agency	Project No. (SWRCB)	Description of Project	Estimated Cost by Steps	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
City of Benicia	1717	Pump station rehabilitation and provision of standby power	1- 12,000 2- 24,000 3- 264,000				1		2 3																	
Vallejo Sanitation and Flood Control District (VS&FCD)	1573	Facilities plan for wastewater reclamation	1- 2- 1,000,000 3- 12,500,000			2	3																			
Vallejo Sanitation and Flood Control District		Collection sewers - storm water separation	1- 75,000 2- 750,000 3- 8,000,000		1	2	3																			
Vallejo S&FCD, Napa Sanitary District and American Canyon Sanitary District	1268	Solids management facilities	1- 2- 100,000 3- 2,500,000		2	3																				
Fairfield-Suisun Sewer District	1430	Addition of solids handling capacity at sub-regional plant	2- 400,000 3- 9,000,000		2 3																					
City of Fairfield	1744	Fairfield-Suisun subregional tertiary plant expansion and additional wastewater disposal facilities	1- 2- 70,000 3- 1,000,000		1 2	3																				
Solano County	1535	Facilities plan for countywide septage study	1- 25,000 2- 3-	(Unscheduled)																						
Solano County	1777	Wastewater management for unsewered area -- Glen Cove	1- 35,000 2- 3-				1 (Unscheduled) (Unscheduled)																			
Solano County	1778	Wastewater management for unsewered area--Green Valley, Suisun Valley, Cordelia	1- 150,000 2- 3-				1 (Unscheduled) (Unscheduled)																			
Fairfield-Suisun S.D. and Solano Irrigation District		Facilities plan for wastewater reclamation	1- 100,000 2- 3-	(Unscheduled) (Unscheduled)	1																					
Vallejo S&FCD		Plant expansion	1- 250,000 2- 2,500,000 3-15,000,000																			1	2	3		

SONOMA COUNTY

Implementing Agency	Project No. (SWRCB)	Description of Project		Estimated Cost by Steps[a]	FISCAL YEAR (AND ASSIGNED STEPS) 78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-2000	2000-2001
Sonoma Valley County S.D.	0834	Sonoma Valley C.S.D. secondary plant improvements and expansion	1- 2- 3-	 13,400,000	3																					
Sonoma Valley County S.D.	0834	Effluent outfall and storage	1- 2- 3-	 12,300,000		3																				
Sonoma Valley County S.D.	1770	Jack London Country Club Estates - wastewater management	1- 2- 3-	12,000				1	(Unscheduled) (Unscheduled)																	
Sonoma Valley County S.D.	1775	Kenwood wastewater management	1- 2- 3-	35,000				1	(Unscheduled) (Unscheduled)																	
Sonoma Valley County S.D.		Sonoma Valley C.S.D. plant expansion	1- 2- 3-	50,000 500,000 5,000,000					1	2	3															
Sonoma Valley County S.D.	1748	Construction of storage, pipeline and irrigation distribution system	1- 2- 3-	250,000 2,600,000 23,800,000						1 (Unscheduled) (Unscheduled)																
City of Petaluma	1747	Expansion of irrigation system	1- 2- 3-	6,000 57,000 500,000			1	2	3																	
City of Petaluma	2392	Petaluma plant expansion	1- 2- 3-	50,000 500,000 5,000,000										1	2	3										
City of Petaluma	2471	Upgrade treatment and reclamation project	1- 2- 3-	 610,000 6,100,000		2	3																			
Sonoma County	1771	Wastewater management - westerly of the Petaluma city limits	1- 2- 3-	30,000				1		(Unscheduled) (Unscheduled)																
Sonoma County	1752	Wastewater management - Petaluma Blvd., Bailey Ave., Gossage Ave., Jessie Lane and Skillman Lane	1- 2- 3-	15,000				1		(Unscheduled) (Unscheduled)																
Regional																										
Regional reclamation and reuse of wastewater management group	1432	Regional reclamation facility	1- 2- 3-	1,670,000 85,000,000 800,000,000	1 (unscheduled) (unscheduled)																					

TABLE 5.2 - MANAGEMENT AGENCIES AND RESPONSIBILITIES FOR THE 1980 WATER QUALITY MANAGEMENT PLAN AMENDMENTS

Table 5.2: Agency and Responsibilities

ALAMEDA COUNTY

County - 5.4, 5.5, 8.4, 8.5, 8.7, 12.8*, 12.9*

Cities

Alameda - 5.4, 5.5, 8.4, 8.5, 8.7
Albany - 5.4, 5.5, 8.4, 8.5, 8.7
Berkeley - 5.4, 5.5, 8.4, 8.5, 8.7
Emeryville - 5.4, 5.5, 8.4, 8.5, 8.7
Fremont - 5.4, 5.5, 8.4, 8.5, 8.7
Hayward - 5.4, 5.5, 8.4, 8.5, 8.7
Livermore - 5.4, 5.5, 8.4, 8.5, 8.7
Newark - 5.4, 5.5, 8.4, 8.5, 8.7
Oakland - 5.4, 5.5, 8.4, 8.5, 8.7
Piedmont - 5.4, 5.5, 8.4, 8.5, 8.7
Pleasanton - 5.4, 5.5, 8.4, 8.5, 8.7
San Leandro - 5.4, 5.5, 8.4, 8.5, 8.7
Union City - 5.4, 5.5, 8.4, 8.5, 8.7

Special Districts

Alameda County Resource Conservation District - 8.5
Castro Valley Fire Protection District - 12.8, 12.9
Castro Valley Sanitary District - 5.4, 5.5
Dublin-San Ramon Services District - 5.4, 5.5
East Bay Dischargers Authority - 5.4, 5.5
East Bay Municipal Utility District - 5.4, 5.5
Eden Consolidated Fire Protection District - 12.8, 12.9
Fairview Fire Protection District - 12.8, 12.9
Oro Loma Sanitary District - 5.4, 5.5
Union Sanitary District - 5.4, 5.5

CONTRA COSTA COUNTY

County - 5.4, 5.5, 8.4, 8.5, 12.8*, 12.9*

Cities

Antioch - 5.4, 5.5, 8.4, 8.5, 8.7
Brentwood - 5.4, 5.5, 8.4, 8.5, 8.7
Clayton - 5.4, 5.5, 8.4, 8.5, 8.7
Concord - 5.4, 5.5, 8.4, 8.5, 8.7
El Cerrito - 5.4, 5.5, 8.4, 8.5, 8.7
Hercules - 5.4, 5.5, 8.4, 8.5, 8.7
Lafayette - 5.4, 5.5, 8.4, 8.5, 8.7
Martinez - 5.4, 5.5, 8.4, 8.5, 8.7
Moraga - 5.4, 5.5, 8.4, 8.5, 8.7

* County OES and health agency

CONTRA COSTA COUNTY (Con't.)

Pinole - 5.4, 5.5, 8.4, 8.5, 8.7
Pittsburg -5.4, 5.5, 8.4, 8.5, 8.7
Pleasant Hill - 5.4, 5.5, 8.4, 8.5, 8.7
Richmond - 5.4, 5.5, 8.4, 8.5, 8.7
San Pablo - 5.4, 5.5, 8.4, 8.5, 8.7
Walnut Creek - 5.4, 5.5, 8.4, 8.5, 8.7

Special Districts

Bethel Island Fire Protection District - 12.8, 12.9
Byron Sanitary District - 5.4, 5.5
Central Contra Costa Sanitary District - 5.4, 5.5
Contra Costa County Resource Conservation District - 8.5
Contra Costa County Sanitation District No. 5 - 5.4, 5.5
Contra Costa County Sanitation District 7A and 7B - 5.4, 5.5
Contra Costa County Sanitation District No. 15 - 5.4, 5.5
Contra Costa County Sanitation District No. 19 - 5.4, 5.5
Contra Costa Fire Protection District - 12.8, 12.9
Crockett-Carquinez Fire Protection District - 12.8, 12.9
Crockett-Valona Sanitary District - 5.4, 5.5
Danville Fire Protection District - 5.4, 5.5
Dublin-San Ramon Services District - 5.4, 5.5, 12.8, 12.9
Eastern Contra Costa Fire Protection District - 12.8, 12.9
Kensington Fire Protection District - 12.8, 12.9
Moraga Fire Protection District - 12.8, 12.9
Mt. View Sanitary District - 5.4, 5.5
Oakley Fire Protection District - 12.8, 12.9
Oakley Sanitary District - 5.4, 5.5
Orinda Fire Protection District - 12.8, 12.9
Pinole Fire Protection District - 12.8, 12.9
Port Costa Sanitary District - 5.4, 5.5
Riverview Fire Protection District - 12.8, 12.9
Rodeo Fire Protection District - 12.8, 12.9
Rodeo Sanitary District - 5.4, 5.5
San Pablo Sanitary District - 5.4, 5.5
San Ramon Fire Protection District - 12.8, 12.9
West Contra Costa Sanitary District - 5.4, 5.5
West County Agency Joint Powers Authority - 5.4, 5.5
West County Fire Protection District - 12.8, 12.9

MARIN COUNTY

County - 5.4, 5.5, 8.4, 8.5, 8.7, 12.8*, 12.9*

Cities

Belvedere - 5.4, 5.5, 8.4, 8.5, 8.7
Corte Madera - 5.4, 5.5, 8.4, 8.5, 8.7
Fairfax - 5.4, 5.5, 8.4, 8.5, 8.7
Larkspur - 5.4, 5.5, 8.4, 8.5, 8.7

* County OES and health agency

MARIN COUNTY (Cont'.)

Mill Valley - 5.4, 5.5, 8.4, 8.5, 8.7
Novato - 5.4, 5.5, 8.4, 8.5, 8.7
Ross - 5.4, 5.5, 8.4, 8.5, 8.7
San Anselmo - 5.4, 5.5, 8.4, 8.5, 8.7
San Rafael - 5.4, 5.5, 8.4, 8.5, 8.7
Sausalito - 5.4, 5.5, 8.4, 8.5, 8.7
Tiburon - 5.4, 5.5, 8.4, 8.5, 8.7

Special Districts

Alto-Richardson Bay Fire Protection District - 12.8, 12.9
Bolinas Community Public Utility District - 5.4, 5.5
County Service Area No. 13 - 12.8, 12.9
County Service Area No. 19 - 12.8, 12.9
Homestead Valley Sanitary District - 5.4, 5.5
Kentfield Fire Protection District - 12.8, 12.9
Las Gallinas Valley Sanitary District - 5.4, 5.5
Marin County Sanitation District No. 1 - 5.4, 5.5
Marin County Sanitation District No. 5 - 5.4, 5.5
Marin County Water District No. 1 - 5.4, 5.5
Marinwood Community Services District - 12.8, 12.9
Novato Fire Protection District - 12.8, 12.9
Novato Sanitary District - 5.4, 5.5
Richardson Bay Sanitary District - 5.4, 5.5
San Rafael Sanitary District - 5.4, 5.5
Sausalito-Marin City Sanitary District - 5.4, 5.5
Sleepy Hollow Fire Protection District - 12.8, 12.9
Tamalpais Fire Protection District - 12.8, 12.9
Tiburon Fire Protection District - 12.8, 12.9

NAPA COUNTY

County - 5.4, 5.5, 8.4, 8.5, 12.8*, 12.9*

Cities

Calistoga - 5.4, 5.5, 8.4, 8.5, 8.7
Napa - 5.4, 5.5, 8.4, 8.5, 8.7
St. Helena - 5.4, 5.5, 8.4, 8.5, 8.7
Yountville - 5.4, 5.5, 8.4, 8.5, 8.7

Special Districts

American Canyon Fire Protection District - 12.8, 12.9
Napa County Resource Conservation District - 8.5
Napa County Sanitation District - 5.4, 5.5

SAN FRANCISCO

City and County - 5.4, 5.5, 8.4, 8.5, 12.8*, 12.9*

* County OES and health agency

SAN MATEO COUNTY

County - 5.4, 5.5, 8.4, 8.5, 8.7, 12.8*, 12.9*

Cities

Atherton - 5.4, 5.5, 8.4, 8.5, 8.7
Belmont - 5.4, 5.5, 8.4, 8.5, 8.7
Brisbane - 5.4, 5.5, 8.4, 8.5, 8.7
Burlingame - 5.4, 5.5, 8.4, 8.5, 8.7
Colma - 5.4, 5.5, 8.4, 8.5, 8.7
Daly City - 5.4, 5.5, 8.4, 8.5, 8.7
Foster City - 5.4, 5.5, 8.4, 8.5, 8.7
Half Mooon Bay - 5.4, 5.5, 8.4, 8.5, 8.7
Hillsborough - 5.4, 5.5, 8.4, 8.5, 8.7
Menlo Park - 5.4, 5.5, 8.4, 8.5, 8.7
Millbrae - 5.4, 5.5, 8.4, 8.5, 8.7
Pacifica - 5.4, 5.5, 8.4, 8.5, 8.7
Portola Valley - 5.4, 5.5, 8.4, 8.5, 8.7
Redwood City - 5.4, 5.5, 8.4, 8.5, 8.7
San Bruno - 5.4, 5.5, 8.4, 8.5, 8.7
San Carlos - 5.4, 5.5, 8.4, 8.5, 8.7
San Mateo - 5.4, 5.5, 8.4, 8.5, 8.7
South San Francisco - 5.4, 5.5, 8.4, 8.5, 8.7
Woodside - 5.4, 5.5, 8.4, 8.5, 8.7

Special Districts

Bayshore Sanitary District - 5.4, 5.5
Belmont Fire Protection District - 12.8, 12.9
Colma Fire Protection District - 12.8, 12.9
County Service Area No. 1 - 12.8, 12.9
County Service Area No. 8 - 12.8, 12.9
Estero Municipal Improvement District - 12.8, 12.9
Granada Sanitary District - 5.4, 5.5
Guadalupe Valley Municipal Improvement District - 12.8, 12.9
Half Moon Bay Fire Protection District - 12.8, 12.9
Menlo Park Fire Protection District - 12.8, 12.9
Menlo Park Sanitary District - 5.4, 5.5
Montara Sanitary District - 5.4, 5.5
North San Mateo County Sanitation District - 5.4, 5.5
Point Montara Fire Protection District - 12.8, 12.9
San Mateo County Resource Conservation District - 8.5
Sewer Authority Mid Coastside - 5.4, 5.5
Woodside Fire Protection District - 12.8, 12.9

SANTA CLARA COUNTY

County - 5.4, 5.5, 8.4, 8.5, 8.7, 12.8*, 12.9*

Cities

Campbell - 5.4, 5.5, 8.4, 8.5, 8.7
Cupertino - 5.4, 5.5, 8.4, 8.5, 8.7
Gilroy - 5.4, 5.5, 8.4, 8.5, 8.7

*County OES and health agency

SANTA CLARA COUNTY (Con't.)

Los Altos - 5.4, 5.5, 8.4, 8.5, 8.7
Los Altos Hills - 5.4, 5.5, 8.4, 8.5, 8.7
Los Gatos - 5.4, 5.5, 8.4, 8.5, 8.7
Milpitas - 5.4, 5.5, 8.4, 8.5, 8.7
Monte Sereno - 5.4, 5.5, 8.4, 8.5, 8.7
Morgan Hill - 5.4, 5.5, 8.4, 8.5, 8.7
Mountain View - 5.4, 5.5, 8.4, 8.5, 8.7
Palo Alto - 5.4, 5.5, 8.4, 8.5, 8.7
San Jose - 5.4, 5.5, 8.4, 8.5, 8.7
Santa Clara - 5.4, 5.5, 8.4, 8.5, 8.7
Saratoga - 5.4, 5.5, 8.4, 8.5, 8.7
Sunnyvale - 5.4, 5.5, 8.4, 8.5, 8.7

Special Districts

Central Fire Protection District - 12.8, 12.9
Cupertino Sanitary District - 5.4, 5.5
Evergreen Resource Conservation District - 8.5
Fremont Fire Protection District - 12.8, 12.9
Gilroy Fire Protection District - 12.8, 12.9
Loma Prieta Resource Conservation District - 8.5
Los Altos Fire Protection District - 12.8, 12.9
Milpitas Sanitary District - 5.4, 5.5
Morgan Hill Fire Protection District - 12.8, 12.9
Santa Clara County Sanitation District No. 4 - 5.4, 5.5
Saratoga Fire Protection District - 12.8, 12.9
South Bay Dischargers Authority - 5.4, 5.5

SOLANO COUNTY

County - 5.4, 5.5, 8.4, 8.5, 12.8*, 12.9*

Cities

Benicia - 5.4, 5.5, 8.4, 8.5, 8.7
Fairfield - 5.4, 5.5, 8.4, 8.5, 8.7
Suisun City - 5.4, 5.5, 8.4, 8.5, 8.7
Vallejo - 5.4, 5.5, 8.4, 8.5, 8.7

Special Districts

East Vallejo Fire Protection District - 12.8, 12.9
Fairfield-Suisun Sewer District - 5.4, 5.5
Suisun Fire Protection District - 12.8, 12.9
Vallejo Sanitation and Flood Control District - 5.4, 5.5

SONOMA COUNTY

County - 5.4, 5.5, 8.4, 8.5, 12.8*, 12.9*

*County OES and health agency

SONOMA COUNTY (Con't.)

Cities

Petaluma - 5.4, 5.5, 8.4, 8.5, 8.7
Sonoma - 5.4, 5.5, 8.4, 8.5, 8.7

Special Districts

Penngrove Fire Protection District - 12.8, 12.9
Schell-Vista Fire Protection District - 12.8, 12.9
Sonoma Valley County Sanitation District - 5.4, 5.5
Valley of the Moon Fire Protection District - 12.8, 12.9

REGIONAL AGENCIES

Association of Bay Area Governments - 1.6, 5.3, 5.6, 8.3, 8.6, 12.9
Bay Area Council of Resource Conservation Districts - 8.6
Regional Water Quality Control Board - 5.3, 12.9

STATE AGENCIES

Caltrans - 12.9
Department of Fish and Game - 12.9
Office of Emergency Services - 12.9

RESOLUTION CERTIFYING AMENDMENTS

TO THE ENVIRONMENTAL IMPACT REPORT

ON THE ENVIRONMENTAL MANAGEMENT PLAN

and

AMENDMENTS TO THE EIR

ASSOCIATION OF BAY AREA GOVERNMENTS
EXECUTIVE BOARD RESOLUTION NO. 4-80
CERTIFICATION OF AMENDMENTS TO THE
ENVIRONMENTAL IMPACT REPORT ON THE
ENVIRONMENTAL MANAGEMENT PLAN

WHEREAS, the General Assembly by Resolution 1-78 certified the final Environmental Impact Report for the Environmental Management Plan; and

WHEREAS, the Environmental Management Plan was adopted by General Assembly Resolution 2-78; and

WHEREAS, amendments were proposed for the water quality management chapter of the Environmental Management Plan in April 1980; and

WHEREAS, revisions to the Environmental Impact Report would be required if the proposed amendments are to be adopted; and

WHEREAS, these revisions were prepared and circulated for public review and comment in compliance with the California Environmental Quality act and State EIR guidelines; and

WHEREAS, three public hearings on the proposed amendments and revised EIR were conducted by the Association; and

WHEREAS, in addition, comments were received from interested agencies and the public; and

WHEREAS, public comments have been summarized and responses prepared to significant environmental points raised in the review and consultation process; and

WHEREAS, the Executive Board, acting for the General Assembly pursuant to a delegation of authority for the 1980 water quality management planning process, is the decision-making body having approval authority over the water quality management plan amendments;

NOW THEREFORE BE IT RESOLVED that Resolution 1-78 is incorporated herein by reference; and

BE IT FURTHER RESOLVED that the Executive Board certifies that revisions to the water quality management plan portions of the final Environmental Impact Report for the Environmental Management Plan have been completed (a copy of which is attached hereto marked Exhibit A) in compliance with the California Environmental Quality Act and State guidelines; and

BE IT FURTHER RESOLVED that Exhibit A includes findings under Section 15088 of the State EIR guidelines; and

BE IT FURTHER RESOLVED that the Executive Board has reviewed and considered the information contained in Exhibit A prior to adoption of amendments to the water quality management chapter of the Environmental Management Plan.

The foregoing resolution was approved by the Executive Board this 17th day of July, 1980.

Signed:

Susanne Wilson

Susanne Wilson
President

Attest:

Revan A.F. Tranter

Revan A.F. Tranter
Secretary-Treasurer

V: ENVIRONMENTAL IMPACTS OF THE WATER QUALITY MANAGEMENT PLAN (INCLUDING ENVIRONMENTAL IMPACT REPORT REVISIONS)

The complete Environmental Impact Report on the Environmental Management Plan is presented in EMP Volume II, Chapter I. The following portions of this section replace pages 25-40 of the EIR contained in Volume II. Page 113 replaces p. 98 of the EIR contained in Volume II.

DESCRIPTION OF THE PROPOSED PROJECT

Twelve policies are proposed to improve water quality and meet applicable Federal and State standards and objectives. Each policy includes a series of actions to carry out the policies. A complete description of the recommendations appears in Chapter III of Volume I of the EMP and its Plan Recommendation tables. The twelve policies recommended are:

Policy 1 - Improve understanding of Bay-Delta estuarine system and the fate and effects of pollutants entering it

Policy 2 - Establish continuing planning process for water quality management

Policy 3 - Facilitate the re-establishment of recreational and commercial shellfish harvesting in the bay as allowed by water quality

Policy 4 - Ensure that water pollution facilities or measures effectively protect water quality

Policy 5 - Provide facilities needed for municipal sewerage service and water quality protection

Policy 6 - Encourage consolidation of treatment facilities and discharge of wastewater to well-mixed receiving waters where economically justified and environmentally desirable

Policy 7 - Accelerate programs toward reclamation and reuse of wastewaters

Policy 8 - Establish a program of surface runoff controls that emphasize low cost measures to reduce the pollutant load

Policy 9 - Provide facilities needed for industrial wastewater treatment and disposal and water quality protection

Policy 10 - Reduce sewage pollution from vessels, including houseboats, in the Bay-Delta system.

Policy 11 - Improve wastewater disposal practices in unsewered areas

Policy 12 - Monitor effectiveness of existing arrangements for preventing and dealing with oil and chemical spills in Bay Area

THE SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

The Plan Recommendation tables in Chapter III of Volume I of the EMP contain summary statements about the potential environmental, institutional/financial, economic and social impacts of the actions recommended to carry out the recommended policies for water quality management. Section G titled "Benefits and Costs of Plan Recommendations" in Chapter III summarizes the significant impacts.

As required by NEPA and CEQA, this discussion assesses the significant environmental effects of the Water Quality Management Plan. The significant environmental effects are:

- o improved water quality
- o fish, shellfish, flora and fauna, recreation and visual amenity benefits
- o increased production of sewage solids

For the purposes of the EIR, the policies of the Water Quality Management Plan are classified into two types of recommendations:

- o management planning recommendations
- o facility construction recommendations

The first type, management planning recommendations, includes research, monitoring, criteria and standard development, permit issuance, operation and maintenance activities, public education and information, and continuing integrated water quality management planning. Recommendations of this type are: Policy 1, Policy 2, Policy 4, Action 5.2, 5.3, 5.4, and 5.5, Policy 8, Action 9.2 and 9.4, Action 10.1, 10.2, 10.3 and 10.6, Policy 11 (all actions except 11.4) and Policy 12.

The significant environmental effects of these recommendations are water quality improvements derived from a higher degree of environmental protection and pollution abatement. Expansion of the information base and development of appropriate tools and techniques through the planning process enable decision-makers to make sound judgments toward the protection of surface and groundwaters in the region.

Indirect water quality benefits should also result from improvements in the efficiency and effectiveness of water quality management programs

after consolidation and coordination of activities currently dispersed among a large number of agencies. Other significant environmental effects of management planning recommendations include: the benefits for other aspects of the natural/physical environment associated with the water quality benefits; and, increased knowledge about the environmental responses to pollutants. The affected aspects of the natural/physical environment encompass: fish, shellfish and other aquatic organisms, flora and fauna (species and habitats), recreation potential and use and visual amenities.

The second type of recommendation would ultimately result in construction of treatment facilities (e.g., municipal and industrial treatment facilities, marina pumpout facilities). Recommendations of this type are Action 5.1, Policy 6, Policy 7, Action 9.1 and 9.3, Action 10.4 and 10.5, and Action 11.4.

These recommendations will have significant environmental effects as they are carried out by local governments and the private sector. Federal and State standards and objectives govern the treatment levels and actions required prior to effluent discharge. Those requirements are based on protection of public health and the natural/physical environment. The major significant environmental effect is therefore the water quality improvements associated with implementing these recommendations. Improved water quality benefits other aspects of the natural/physical environment such as fish, shellfish and other aquatic organisms, flora and fauna (species and habitats), recreation potential and use, and visual amenities.

Another significant environmental effect is the production of sewage solids (sludge) associated with treatment of municipal and industrial wastes. Increased volumes of sludge will result from upgrading and expanding existing treatment facilities, providing new treatment facilities and reclamation activities.

Construction of treatment facilities has other tangible effects. Table 1 lists the EIR/EIS documents prepared (or in preparation) by EPA for the major wastewater management areas of the region. The 20-year Project List as revised in General Assembly Resolution 5-79, adopted 11/79 includes many proposed facilities already discussed in those environmental documents.

Proposed projects involve upgrading treatment levels, additions or expansions or reclamation studies at the existing facilities. The EIR/EIS documents listed discuss the environmental effects of construction of the sewerage treatment facility per se. The reader is referred to those environmental documents for the impacts of the construction of the sewerage treatment facilities recommended in the facilities plans prepared for those management areas. As the actions recommended are carried out by local governments and private industry and become site specific project proposals, those agencies will become Lead Agencies under the definitions of CEQA. As Federal grantees, they would be subject to NEPA requirements. The site specific environmental effects of the proposed projects would then be assessed as required by Federal and State laws.

The Water Quality Control Plan Report for San Francisco Bay Basin (Basin Plan) prepared in 1975 by the State Water Resources Control Board and the Regional Water Quality Control Board of the San Francisco Bay Region recommended a comprehensive water quality management plan for the San Francisco Bay Basin. Volume 2 of the Basin Plan contains an assessment of recommended facilities, control measures and alternatives.

Action 5.3 calls for the consolidation of the Basin Plan project list with the 20-year Project List in the EMP. The Water Quality Management Plan objectives are based on water quality standards and objectives, thus supplementing and expanding the Basin Plan. In a reciprocal manner, many of the environmental effects identified in the Basin Plan relate directly to the water quality effects of the EMP recommendations. Project List consolidation brings the benefits of coordinated regional facilities planning in agreement with regional population projections and eliminates unnecessary duplication of effort and timely delays for list approval.

The Construction Grants for Wastewater Treatment Works Program and the California Clean Water Grants Program fund construction of municipal wastewater treatment facilities. Proposed projects that subsequently qualify for Federal funding move through a three step process. The Step 1 grant funds the preparation of a facilities plan. Federal regulations require all grantees to prepare an environmental assessment (in California an EIR may be prepared and U.S. Environmental Protection Agency would then prepare an EIR/EIS or Negative Declaration) as a part of the facilities planning process. Step 2 grants fund detailed design and specifications while Step 3 grants fund the actual facility construction. EPA files an EIR/EIS or Negative Declaration prior to award of a Step 3 grant.

ANY SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSAL IS IMPLEMENTED AND MITIGATION MEASURES PROPOSED TO MINIMIZE THE SIGNIFICANT EFFECTS

Construction Effects

Construction of sewerage treatment facilities may have significant (adverse) environmental effects of a short-term, localized nature. These include the dust, surface runoff, noise and energy use related effects associated with construction activities. Other effects may include the alteration of land (and in some cases changes in land use) and visual impacts associated with providing new or expanded facilities. These effects can be minimized by noise and dust abatement measures, careful engineering design, and siting measures. The recommendations for surface runoff control measures at construction sites, Action 8.4 and the county surface runoff control plans would minimize any reduce construction-related adverse effects of surface runoff.

Sewage Solids Generation

The major potentially significant (adverse) environmental effect of the sewerage treatment facilities listed in the Water Quality Management Plan (municipal and industrial) is the increase in sewage solids volumes. Upgrading primary treatment plants to secondary treatment results in a two-fold increase in the solids produced. Expansion of facility capacity and reclamation of wastewater also results in an increase in solids produced. It is estimated that in 1980 the wastewater treatment agencies in the region will generate about 10,800 cubic yards per day of wet (80% moisture content) sludge cake. That amount would cover a football field with about a 7-foot layer every day.

The sludge management system includes sludge processing transport and disposal or reuse. With the exception of thermal and combustion processes, the environmental effects of processing are not normally significant. The potential for significant environmental effects is associated with the transport and disposal/reuse components of the system.

The significant (adverse) environmental effects of those components of the sludge management system include: the potential for water quality impacts (e.g., surface runoff, groundwater contamination associated with landfilling and land application), air quality impacts (e.g., odor, transport truck emissions), and physical resource impacts (e.g., the effects on the supply and use of land associated with landfill disposal and land application) and energy impacts (truck and pipeline transport).

The San Francisco Bay Region Wastewater Solids Study has developed a regional plan for long-term wastewater solids management and detailed facilities plans for the four largest wastewater treatment agencies (City and County of San Francisco, City of San Jose, Central Contra Costa Sanitary District and East Bay Municipal Utility District). This Regional Plan is a component of the solid waste recommendations of the Draft EMP.

The Final Project Report/EIR/EIS for sludge management for the four major facilities was completed in 1979 and 1980. The potential adverse environmental impacts associated with the increased volumes of sewage solids resulting from wastewater treatment recommendations will therefore be mitigated as part of the sewage solids planning process. The facilities plans for the four largest wastewater treatment agencies will be based on the Regional Wastewater Solids Plan recommendations for sludge management, and will include an impact assessment of the site specific effects of sludge management activities at each of the facilities.

All other treatment facility expansions and reclamation studies will address the environmental effects of increases in sludge volumes in the facilities planning process. Sludge management proposals will have to be consistent with the EMP. Environmental documents will be prepared prior to grant awards for design and construction.

Secondary Impacts

Plans to construct sewerage treatment facilities often face opposition on the basis of their growth inducing characteristics and the adverse environmental impacts associated with the induced growth. The major environmental issue associated with induced growth is the deterioration of air quality.

The facilities included on the 20-year Project List and the actions recommended for on-site disposal management would accommodate planned regional growth. This growth is consistent with and planned for in the Bay Area Air Quality Plan prepared by ABAG in 1979. The 20-year Project List adopted in 1978 (EMP Volume I, Chapter III: Section J) was revised by General Assembly Resolution 5-79 which was adopted in November 1979 and amended by the Executive Board in December 1979. The 1979 update of the 20-year Project List, based on "ABAG Projections 79", would provide facilities to accommodate a population of up to 6.1 million people in the year 2000. This population projection corresponds closely to the "Series 3 projections, compact development pattern-high population estimates" that was the basis of the 20-year Project List adopted in 1978.

The project list will be updated annually. That will allow further examination of the need for facility expansions. It will also allow the incorporation of future growth trends into identification of needed facilities.

Originally, the compact development recommendations of the air quality plan were used to develop a project list. Future Federal and State financial assistance for construction of facilities will only be available to projects on the list. It was felt that compact growth would reduce the potential for deterioration of air quality resulting from induced growth.

The land use management portion of the AQMP was deleted from the EMP. The current 20-year Project List will accommodate the projected population of the region in the year 2000. The potential for a specific project to induce growth beyond that projected to occur in an area can only be assessed during the planning and assessment of each specific project. Adverse environmental effects of the accommodated development could be mitigated by actions of the affected local governments (e.g., zoning, capital improvements budgets) and by the actions of regional, State and Federal agencies responsible for meeting air and water quality standards and objectives.

The collection systems included on the 20-year Project List will require further assessment to determine their growth-inducing potential and other impacts of providing central sewerage facilities in areas that are currently unsewered. Under current regulations, "sewage collection systems are only eligible for Federal assistance through the Construction Grants for Wastewater Treatment Works Program in "communities in existence" on October 18, 1972 and if there is sufficient existing or planned capacity to adequately treat such

collected sewage and the bulk of the flow design capacity through the sewer system will be wastewaters originating from the community in existence on October 18, 1972.* Replacement or major rehabilitation of existing systems (based on a sewer system evaluation) "must be cost effective and result in a sewer system design capacity equivalent only to that of the existing system plus a reasonable amount for future growth." The collection systems will be subject to close scrutiny in the continuing environmental management planning process and annual update of the 20-year Project List.

ALTERNATIVES TO THE PROPOSED ACTION

The No Action Alternative to the Water Quality Management Plan

The major alternative to the Water Quality Management Plan in its entirety is one of no action. The impacts identified in Plan Recommendation tables in Chapter III of the EMP were measured against that alternative. The no action alternative was not felt to be feasible for several reasons. Section 208 of the Federal Water Pollution Control Act Amendments of 1972 requires "gubernatorial designation of areas with substantial water quality problems and a single representative organization capable of developing effective areawide waste treatment management plans for such area"** and within "a year of designation that a continuing areawide waste treatment management planning process consistent with Section 201 of the Act"*** be in operation. As the designated organization for the San Francisco Bay Region, ABAG is obligated to establish a process and "produce an areawide waste treatment management plan not later than two years after the planning process is in operation."****

The No Action Alternative for Municipal Facilities and Industrial Discharges

The Basin Plan referenced earlier and facilities plans prepared for subareas of the region and individual treatment works have addressed, for the most part, only point sources of pollution from municipal facilities. Section 208(b)(A)-(D) requires the areawide waste treatment management plan to identify "treatment works necessary to meet anticipated municipal and industrial waste treatment needs of the area over a twenty-year period." The no-action alternative to the municipal and industrial waste treatment management recommendations (Policy 5 and Policy 9) is not feasible on two counts. First, such facilities are required by the FWPCA. Existing municipal and industrial discharges must meet applicable water quality standards through treatment levels for effluent discharge required by the National Pollutant Discharge Elimination System permits issued by the Regional Water Quality Control Board. Second, facilities recommendations for the twenty-year planning period are also required by the FWPCA.

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* Section 35.92513 Final Construction Grants Regulations 40CFR, Part 35, Subpart E.

** Section 208(a)(2)

*** Section 208(b)(1)

**** Section 208(b)(1)

No action would result in the continuation of existing facilities which are inadequate to handle future population growth. As waste flows from new growth exceed the capacity of existing treatment works, sewage would be inadequately treated and subsequent point source discharges would lead to violations in water quality standards.

The No Action Alternative for Miscellaneous Sources

The designation of a substantial water quality problem area generally occurs where waters in the area would not meet applicable water quality standards even with high treatment levels at point sources of pollution. This situation generally results from significant contributions of non-point pollution sources, (e.g., vessel wastes, septic systems and surface runoff).

The Basin Plan discussed several non-point sources of pollution that contributed to designation of the Bay Area as an area with substantial water quality problems. Those included urban runoff, construction related runoff, agricultural runoff, salt intrusion and control, oil spills, dredged spoil, solid waste disposal and floating debris. The Basin Plan discussed general approaches to manage these sources of pollutant loadings to the Bay system.

Section C ("Water Pollution Problems and Their Causes") of Chapter III in Volume I of the EMP describes the nature and seriousness of existing and future water quality problems in the San Francisco Bay system. Included in that description are miscellaneous sources of pollution (non-point sources). The major sources (surface runoff, vessel wastes, on-site disposal systems and oil and chemical spills are addressed by recommended management actions (Policy 8, Policy 10, 11 and 12, respectively). The no action alternatives to non-point source recommendations is not feasible. Section 208(b)(2)(F)-(K) requires these sources to be addressed. No action with respect to these miscellaneous sources would result in the worsening of water quality problems associated with such sources. This EMP goes beyond the Basin Plan and recommends specific actions to manage non-point sources of pollution.

Institutional Alternatives to Implement the Water Quality Management Plan

An alternative that could have been recommended throughout the Water Quality Management Plan was the creation of new agencies or a "super" regulatory agency to implement the recommended actions. Section 208(c)(2)(A) requires that there be adequate authority "to carry out appropriate portions of an areawide taste management plan..." The regulatory program developed must indicate that agency(s) with regulatory responsibility possess the statutory authority, or have initiated legislative proposals to obtain the authority to carry out the activity and use the forms of regulation called for in the plan (Section 208(b)(2)(C)). Thus, the option was feasible.

The EMTF Plan Implementation Committee directed ABAG staff with regard to institutional arrangements for plan implementation. Chapter VIII of Volume I of the EMP describes the "guiding principles" developed by that committee. The committee (and EMTF endorsement for the draft plan) indicated that successful initial implementation of the plan required the use of existing agencies with implementing authorities where those agencies could reasonably be presumed able to effectively implement proposed actions. The implementing authorities for plan recommendations are distributed among many agencies in the region. Past efforts have shown that cooperative agreements (e.g., Joint Powers Authorities, Memoranda of Understanding) are effective means of implementation. Those guiding principles ruled out changes in institutional structures such as creation of new agencies or a "super" regulatory agency.

In addition to the no action alternative to the Water Quality Management Plan in its entirety and to the three elements (municipal facilities, miscellaneous sources and industrial discharges) discussed, alternatives to specific policies and actions were also considered.

Alternatives to Policy 1

One alternative considered for Policy 1 (Improve understanding of Bay-Delta estuarine system and the fate and effects of pollutants entering it) and its implementing actions was no action or continuation of the status quo. Numerous agencies (Regional Water Quality Control Board, State and County Health Departments, Federal agencies, local agencies, special districts, private industry) currently conduct research and monitoring programs. However, due to limited resources, the programs are not as extensive as would be desirable. One major problem associated with the current data gathering effort is that of information transfer. The data that does exist is not well circulated or easily accessible in a uniform format. Because much of the water quality management recommendations call for new monitoring and research, the no action alternative did not seem feasible. An independent, centralized research and monitoring program was recommended to obviate long delays in assembling an adeqaute data base for ongoing water quality management planning and to improve the reliability and accessibility of the data generated. Action by the EMTF and Executive Board changed the context in which research and monitoring would proceed and some responsible agency designations. Rather than an independent, centralized program, an Advisory Council with broad membership is proposed. The impacts/significant environmental effects, however, remain the same.

Alternatives to Policy 2

The no action alternative for Policy 2 (Establish a continuing planning process for water quality management) is not feasible. Section 208(b)(1) and (3) requires the establishment of such a process and annual updating of the areawide waste treatment management plan.

Alternatives to Policy 3

The alternative considered for Policy 3 (Facilitate re-establishment of recreational and commercial shellfish harvesting in the bay as allowed by water quality) was no action or continuation of the status quo. Beds of mussels, oysters and clams are widespread in the bay system. However, they remain an untapped resource due in large part to the presence of pathogenic bacteria and viruses in overlying waters. Continuation of the status quo would not change the current situation. The shellfish resource would remain untapped and inaccessible to the Bay Area population. As the discharge of substances that contaminate shellfish are prevented or reduced, the potential to realize the benefits of the resource is greatly improved. No action does not appear reasonable in light of the actions and investments taken to improve water quality. There are no viable alternative approaches to re-establishing shellfish harvesting. Beds closed to recreational and commercial harvesting are closed due to the potential health hazards of harvesting contaminated shellfish. Before the beds could be open to recreational harvesting, surveys by the State Department of Health would be mandatory. Commercial harvesting requires better information on the effectiveness of depuration and relaying as methods of ridding shellfish of contaminants. The State Health Department is the agency with expertise and authority to initiate necessary actions (in conjunction with the Regional Water Quality Control Board, State Department of Fish and the County Health Departments).

Alternatives to Policy 4

The alternative to Policy 4 (Ensure that water pollution facilities or measures effectively protect water quality) was no action or continuation of the status quo. The municipal and industrial treatment facilities construction program has involved substantial amounts of capital investment. As the program of construction tapers off, it will be necessary to concentrate efforts on the operational aspects of those facilities. The monitoring effort and annual report would provide data on aspects of plant operation needing attention. Billions of dollars of capital investment will be poorly spent if plants are not properly operated. The no action alternative would not ensure that capital investments in facility construction would return the water quality benefits expected from the construction.

Alternatives to Policy 5, 6, and Policy 9

An alternative considered for Policy 5 (Provide facilities needed for municipal sewerage services and water quality protection) Policy 6 (Encourage consolidation of treatment facilities and discharge of wastewater to well-mixed receiving waters where economically feasible and environmentally desirable), and Policy 9 (Provide facilities needed for industrial wastewater treatment and disposal and water quality protection) was to require toxicant removal prior to discharge of effluents to municipal systems or directly to the bay system. The effects of substances such as toxicants can upset treatment process operation and damage aquatic life in the receiving waters. Detection and source control of toxic materials discharged to subregional sewer

systems is a difficult and expensive problem. Reduction of toxicant emissions at the source requires the cooperation of industrial operators with processes or control procedures that may contribute these substances to the sewer system or receiving waters. Local and subregional waste ordinances and National Pollutant Discharge Elimination System (NPDES) permits currently require that certain actions be taken to treat toxic substances prior to discharge. Removal of toxic substances from waste discharges (and storm runoff) is difficult and expensive. Despite data from fish bioassay, effluent chemical analysis, and receiving water and bay monitoring, conclusive evidence is lacking regarding the harm of such discharges to the biological system of the bay. In light of this situation, it was not judged feasible to recommend toxicant removal at all treatment facilities. Instead, it is recommended that the current efforts continue and a reduction in the discharge of toxic substances be accomplished where this can be done easily and relatively inexpensively. At the same time, research would be undertaken to determine whether harmful effects are occurring and if further removals are justified.

An alternative to Action 5.4 and 5.5 (Evaluate benefits and incorporate recreational facilities into water quality protection projects where economically justified or feasible) would be to recommend that approval and funding of water quality protection projects be contingent upon providing recreational benefits to some value commensurate to the service population. An even narrower viewpoint would be the recommendation that a specified percentage of the capital cost or treated wastewater effluent for any facility be used for the creation or enhancement of recreational facilities.

Consideration of recreational benefits with water pollution control projects is currently required under the FWPCA Section 208(b)(2)(A). However, mandatory incorporation of recreational benefits into projects is not specifically required by the law and thus could not be enforced. In addition, the Clean Water Grant Program, set up by the FWPCA, specifies that facilities for uses other than waste treatment, conveyance or disposal are not grant-eligible. Thus, these alternatives could not be effectively enforced or financed through Federal programs. Implementation of these alternatives by local jurisdictions in an arbitrary fashion would probably also be politically and financially infeasible.

Alternatives to Policy 7

Alternatives to Wastewater Reclamation and Reuse are described as part of the Water Supply Management Plan alternatives.

Alternatives to Policy 8

The alternatives to the surface runoff management recommendations (Policy 8 - Establish a program of surface runoff controls that emphasize low cost measures to reduce the pollutant load from this source) were considered by each of the counties in the process of

developing the individual County Surface Runoff Control Plans. The criteria used to eliminate alternatives or control measures is described in some detail in each county plan. The County Surface Runoff Control Plans are contained in Appendix C of the EMP. Generally speaking, the alternative to an emphasis on low cost measures for reducing the pollutant load from the surface runoff would have been to recommend new programs or structural approaches. Alternatives of that nature were rejected for the most part because the concept of Best Management Practice stressed by EPA involves an initial focus on better housekeeping methods and a reorientation of current programs to include water quality benefits as an additional criteria. The effectiveness of this approach will be studied and specific demonstration projects carried out to gather further information about the effectiveness of controls. Alternative approaches will be investigated in the continuing planning process.

An alternative to Action 8.3 (Adopt regionally consistent definitions of Best Management Practices) would be the recommendation that each county develop its own specifications manual for surface runoff control measures. This would result not only in multiple duplications of effort but could produce conflicting or unmatching definitions for similar control measures from county to county. Water quality protection would not be well-served when a control measure is strictly defined and enforced in one jurisdiction and poorly defined in a neighboring jurisdiction only several hundred feet away within the same watershed.

The alternative to Actions 8.4 through 8.8 is no action or continuation of present planning activities. The surface runoff program has identified numerous weaknesses within the existing county system of non-point source pollution control, such as weak ordinances for erosion control and/or inadequate enforcement and lack of or inadequate provisions for the protection of critical watershed areas. Without concerted action to strengthen protection efforts, non-point source pollution will increase and the Bay system will continue to have substantial water quality problems.

Alternatives Policy 10

Several alternatives were considered for the vessel waste management recommendations (Policy 10 - Reduce sewage pollution from vessels, including houseboats, in the bay-delta system). An alternative considered for Action 10.1 (Improve monitoring and documentation of vessel waste pollution) was to have responsibility for monitoring rest with marina owners who would report results to the Regional Water Quality Control Board (RWQCB). That alternative, upon further investigation, was judged not feasible. The authority that would have been used was the RWQCB waste discharge permit authority. However, legally and technically the marina is not the point of discharge. The boats in the marina are the discharge "points". The original recommendation was for the independent research and monitoring program to conduct the monitoring. After changes in Policy 1, this action was also changed so that the Regional Water Quality Control Board and County

Health Departments will be responsible for periodic sampling and documentation of the effectiveness of current vessel waste pollution control programs. These activities are important to Policy 3 so that progress can be made in reopening shellfish beds for recreational and commercial harvesting.

An alternative to Action 10.2 (Conduct public hearing(s) and establish discharge prohibition as appropriate) wuld have been to recommend that the entire bay be declared a no discharge zone. Large portions of the bay are not as sensitive to waste discharges as specific beneficial use areas such as shellfish beds and water contact recreation areas. Pending analysis of the water quality effects of new no discharge zones in the recommended areas, it did not seem reasonable to require potentially unnecessary and extremely costly actions by point source dischargers to eliminate all discharges to the bay. Results of Action 10.1 will be used to determine discharge prohibition needs in environmentally sensitive areas.

An alternative to Action 10.3 (Inform boating public or marine sanitation device program) was to recommend a Bay Area specific marine sanitation device program. That program, as initially conceived, would have involved requiring all boats to install Bay Area approved marine sanitation devices (MSD). Operated through an inspection program administered by the Department of Motor Vehicles, DMV would require the boat owner to show a certificate from an inspection station that there was an approved MSD on the boat. This would occur as part of the boat registration/license program. The inspection station options were boat dealerships, repair shops, marinas or county health departments. Licensing of the inspection station and identifying Bay Area approved MSD would be handled by the State Health Department through the county health departments. Authority to regulate MSD would be delegated by the U.S. Coast Guard. Analysis of the legality of such a program indicated that the State would be pre-empted from undertaking such a program because the statutory authority to regulate tests with the Federal government (U.S. Coast Guard). Further analysis of the institutional complexities of such an approach also influenced the decision not to pursue that alternative. Instead, a public education program by the Regional Water Quality Control Board and U.S. Coast Guard is recommended as an effective way to inform the boating public about required devices and the importance of controlling vessel discharges.

Action 10.4 and 10.5. Support current requirements for marinas and harbors.

Alternatives to Policy 11

The major alternative considered for Policy 11 (Improve wastewater disposal practices in unsewered areas) was that of no action or continuing the status quo. Because problems associated with failing septic tanks occur throughout the Bay Area under the existing system, continuation of the status quo or no action was not felt to be feasible if the problem is to be alleviated.

An alternative to Action 11.1 (Establish minimum regionwide standards for on-site disposal systems) would have been to recommend that the Regional Water Quality Control Board set standards and impose those standards on the county health departments. The county health departments currently permit on-site disposal systems. The problem appeared to rest with lack of uniform standards and application of standards. A cooperative approach to standard setting appeared to be the more effective alternative.

No action did not appear to be a feasible alternative to Action 11.2 (Inspect periodically new on-site wastewater disposal systems, including septic tanks, and establish procedures to ensure proper maintenance). Historically many system failures have been linked to poor maintenance, due to the discretion allowed homeowners and their lack of information about the consequences of poor maintenance. A public oversight role appeared to be an appropriate solution. An alternative would have been to recommend the creation of a new agency to implement public management of new on-site systems. Based on the EMTF approach not to recommend the creation of new agencies where current implementing authorities exist and can reasonably be assumed able to carry out the recommended action, that alternative was rejected.

The same reasoning applies to the recommended implementing agencies for Action 11.3 (Establish procedure for inspection and maintenance of existing on-site systems where appropriate). Another alternative for that action would have been to require public management of existing on-site systems. Since failures are not always the result of poor maintenance (but may instead be due to improper soil conditions, etc.), requiring public management may be inappropriate in many areas as it would not solve those problems. Instead a procedure to inspect and maintain systems where that is appropriate to current problems is recommended. Requiring public management of existing systems when the problem is that the systems are not technically appropriate would allow the health hazards of recurrent failures to continue instead of encouraging the area to plan for a central sewerage system as recommended in Action 11.4 (Where on-site systems are inappropriate, install sewerage system).

Alternatives to Policy 12

The alternative considered for Policy 12 (Monitor effectiveness of existing arrangements for preventing and dealing with oil and chemical spills in Bay Area) was no action or continuation of the status quo. Numerous agencies are currently involved in dealing with spills (Coast Guard, Department of Fish and Game, EPA, RWQCB, State and County Offices of Emergency Services, Fire Department and local contractors). Testimony on the Draft EMP indicated that petroleum spills in bay and offshore waters are currently adequately handled by existing arrangements. Non-petroleum hazardous chemical spills merit study and a task force to do so is recommended. Effectiveness of inland hazardous/toxic chemicals spill prevention and clean-up arrangements will be developed. These aspects of spill prevention and clean-up merit attention so that some action was indicated.

Regulation of the construction and operation of vessels, facilities and safety device installation and increased liability limits would effectively reduce the risk of accidental oil and chemical spills. Such actions would provide incentives to shippers and facility owners to install effective safety devices and provide operator training to counter spills resulting from operator error. These actions appeared more feasible than the status quo or the risk of spills. Federal law preempts State or regional vessel construction and operation regulations and thus the recommendation (Action 12.6) supports Federal efforts.

No action did not appear feasible with regard to the current shipping traffic situation in North San Pablo Bay and Carquinez Straits. Shipping traffic in those areas is substantial. The risk of accidents remains due to the lack of a traffic system. Investigation of extending the comprehensive Central Bay radar traffic system seems advisable.

No action with regard to Action 12.8 (Containment of non-hazardous chemical spills) is judged infeasible. Non-hazardous chemical spills which enter into streams and other surface waters can cause significant water quality degradation and damage to wildlife and their habitats. Commercial production and traffic in materials that could cause these problems is significant and varied, thus making control of each source and accident reduction difficult.

The alternative to Action 12.9 (Prepare and implement a regionally-coordinated chemical spill response plan) would be a recommendation for each local agency or several agencies within a county to prepare a chemical spill response plan. This would result not only in multiple duplications of effort, but could produce dissimilar or conflicting methods for handling spills between agencies. Although one agency could effectively contain spills, damage could occur in a neighboring jurisdiction where the same type of spill would be washed into a storm drain or water body and cause environmental problems.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The recommendations of the Water Quality Management Plan are an attempt to initiate a program of actions to be taken by all levels of government and the private sector that would result in the maintenance and enhancement of long-term productivity of the region's water resources. In some cases, for example, the municipal, industrial and certain of the miscellaneous source management actions would result in the short-term use of available materials to achieve long-term productivity. Taking action now will promote the long-term maintenance and enhancement of the beneficial use potential of the region's streams, lakes, reservoirs and the bay (e.g., water contact and non-contact recreation, fishing, shellfishing, etc.). This may only postpone the time when even more stringent pollution control programs to protect the region's water resources will be required. On the other hand, actions taken now may

negate or substantially reduce further actions at some point in the future.

ANY SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Policies which would ultimately result in construction (Action 5.1, Action 9.1 and 9.3, Action 10.4, 10.5, Action 11.4) of treatment facilities would require material and land resources. The land where the facilities will be sited may undergo irreversible environmental changes. The specific sites where that will occur and the exact nature of the irreversible environmental change from construction of the project and due to any growth accommodated by the project will be identified during the planning and assessment for the specific project.

THE GROWTH INDUCING IMPACTS OF THE PROPOSED ACTIONS

The recommendations in the plan most susceptible to scrutiny for their growth inducing potential are the municipal facilities policy (Policy 5) and actions and the on-site disposal system management policy (Policy 11) and actions. Comments received on the October [1977] draft of the Water Quality Management Plan raised concerns that any recommendation for public management of new on-site disposal systems would be construed as a growth inducing action and would adversely affect local government efforts to control growth on lands outside urban service areas.

As a result of those comments, the policy was modified. It was further modified to reflect deletion of land use controls. The new policy, Policy 11, reads "Improve Wastewater Disposal Practices in Unsewered Areas." The actions recommended to carry out that policy seek to do several things. First, uniform standards and criteria would be developed. That would ensure that new on-site disposal systems (especially septic tanks) would only be permitted where it could be demonstrated that they are technically feasible and could be presumed to function effectively, with proper maintenance, without degradation of the ground or surface water. Use of uniform standards, criteria and tests by each county health department would eliminate the current situation where, because of different criteria, permits may be issued in one county under circumstances that would result in denial in another county. Assuming that new, uniform standards and criteria would be more stringent than many current ones, rather than inducing development policies. Inspection and maintenance requirements for new on-site disposal systems merely ensures that if on-site systems are permitted because they are technically appropriate, and are consistent with local development policies, they would not fail due to lack of proper maintenance. It is therefore felt that Policy 11 should not have growth inducing effects.

Policy 5 (Provide facilities needed for municipal sewerage services and water quality protection) and the actions to carry out the policy as embodied on the 20-Year Project List (Revised 11/79 by General Assembly

Resolution 5-79) are also subject to scrunity for their growth inducing effects. The projects on the list that involve expansion of existing treatment facilities are those facilities necessary to serve a Bay Area population of 6.1 million people in the year 2000. The projects on the list that would have their timing affected are noted with two asterisks. The projects on the 20-Year Project List reflect expansions, additions and new facilities currently determined to be necessary over the next twenty-two years to accommodate the anticipated growth in the region. The year 2000 population number from Projections 79: 1980-2000" by ABAG will be used by Federal and State grant authorities to fund facilities construction. If the region grows as projected, its sewerage needs should be provided for in an orderly fashion without any artificial constraints on or inducements to growth. Each project on the list will be subject to Federal and State grant regulations and NEPA and CEQA requirements (including a discussion of the project's growth inducing potential) prior to funding consideration.

As discussed in the section "Significant Environmental Effects which Cannot be Avoided if the Proposal is Implemented," the collection sewer systems included in the 20-year project list must be assessed for their growth inducing potential. At this point it is possible that certain of those systems could induce growth (although the ultimate limiting factor is the capacity of the treatment plant at the end of the pipe--a capacity selected to correspond to projected population). However, during the initial phases of the continuing environmental management planning process, those projects will be re-evaluated. In revising the 20-year project list (an annual activity required by Section 208 of the Federal Water Pollution Control Act Amendments), those projects found not to be consistent with the EMP would be deleted from the list. Moreover, prior to construction with Federal and State grant assistance, those projects judged eligible will have to meet Federal and State regulations and NEPA and CEQA requirements (including a discussion of the project's growth inducing potential).

FINDINGS UNDER SECTION 15088 OF THE "STATE EIR GUIDELINES"

Water Quality Management Plan

The significant environmental effects identified in the Water Quality Management Plan as amended in 1980, are:

1) increased volumes of sewage solids (sludge) to be disposed of/used and the effects of disposal/use

2) construction-related and other environmental effects associated with treatment facilities

Significant environmental effects identified in the EIR are intended only to describe the nature of impacts that could be expected to be associated with a type of project and the general nature of potential mitigation measures available to the responsible public agency which may include various aspects of implementation of the EMP (e.g., the Solid Waste Management Plan/Regional Wastewater Solids Plan, Surface Runoff component of Water Quality Management Plan, especially County Surface Runoff Control Plans, Water Supply Management Plan, Air Quality Maintenance Plan).

This public agency does not recommend the construction of any site-specific project and nothing in the EMP guarantees construction of any specific project. Other public agencies will be responsible for proposing site-specific projects and mitigating significant environmental effects at the point in time such projects are proposed.

Accordingly, ABAG finds under Section 15088(a)(1) and (2) of the "State EIR Guidelines" with respect to the significant environmental effects identified in the Water Quality Management Plan as amended in 1980, that:

1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant environmental effects thereof as identified in the final EIR.

2) Such changes or alterations are within the responsibility and jurisdiction of another public agency(s) and not ABAG. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

Factual evidence supporting these findings is contained in Chapter III of the EMP and the Final Environmental Impact Report.

SUMMARY OF PUBLIC COMMENTS

and

STAFF RESPONSES

GENERAL
COMMENTS

Letter
Joanne Angvick, League of Women Voters
May 15, 1980

STAFF RESPONSE

The League of Women Voters of the Bay Area considers that the proposed amendments to the WQMP will contribute to improved quality of waters of San Francisco Bay and to preservation, and even enhancement, of the waterways and reservoirs. Erosion control equates with preventive medicine. The proposed surface runoff control recommendations should be approved for inclusion in the plan.

No comment necessary

Letter
Arliss L. Ungar, Technical Advisory Committee Member
May 15, 1980

STAFF RESPONSE

I urge your strong support for the proposed additions to the Water Quality Management Plan. Effective erosion control and chemical spill containment are urgently needed. I think they would be a tremendous help toward protecting the water quality of the San Francisco Bay Region.

No comment necessary.

Letter
Rod Diridon, Santa Clara County Supervisor
June 19, 1980

STAFF RESPONSE

The County Planning Department staff recommends support of the 1980 Bay Area Water Quality Management Plan with some minor reservations.

Implementation of ABAG's policy 8 recommendations will greatly enhance our ability to more effectively deal with surface runoff control.

No comment necessary

GENERAL
COMMENTS

Letter
E.R. Becks, California/Nevada Community Action Association
June 18, 1980

STAFF RESPONSE

CAL/NEVA, which is currently represented on the ABAG Citizens Advisory Committee on Water Quality, would like to indicate its support for the recommendations for amendments to the water quality portion of the Environmental Management Plan.

No comment necessary

However, the Executive Board should remember that in matters of environmental quality...careful and conscientious study must be given to the impact that these actions will have on poor and rural communities and neighbhorhoods already hard-pressed, isolated and without substantial resources or political power, and in need of support.

Intent of much of our work has been to find the lowest cost measures which will produce environmental protection--to the benefit of all.

Public Hearing
Executive Board, ABAG
June 19, 1980

Testimony

STAFF RESPONSE

Frank M. Stead, Chairman, Citizens Advisory Committee on Water Quality. He felt the strength and novelty of proposed plan amendments was that they dealt with erosion control in the context of the quality of the receiving waters. Dealing with costs of erosion in terms of costs of rectification of sedimentation in receiving body of water provides an eminently logical and understandable way of estimating the cost of failure to control erosion, and gives the whole program a receptivity by taxpayers few programs enjoy.

No comment necessary

GENERAL
COMMENTS

Letter
Executive Committee, COLAB
June 18, 1980

STAFF RESPONSE

We are well aware that the [ABAG Surface Runoff Plan] (if enacted) will have the force of law under EPA requirements and the control of federal funding.

Implementation of any recommendations proposed in 1980 is voluntary.

An earlier version of this plan was deleted from the 1978 Environmental Management Plan for the Bay Area because of concerns regarding: (a) need for the controls proposed; (b) the cost effectiveness of the controls; (c) the fiscal impacts of the proposed controls; and (d) confusion created by overlapping jurisdiction.

The current recommended actions do not undermine County Surface Runoff Plans. Only Action 8.9 from the December 1977 Draft EMP has been incorporated into the 1980 plan. Our new studies have analyzed these concerns and recommend erosion control programs on basis of need, cost and effectiveness.

We believe that ABAG should not act on these controls until the above questions have been adequately answered and that it will take up to 6 months for both the public and private sector to make the evaluation.

ABAG has involved public and private sectors throughout the planning process. Unfortunately, our contractual commitments and funding do not permit a six month delay.

GENERAL
COMMENTS

Letter
City-County Engineering Advisory Committee
Contra Costa County
June 25, 1980

STAFF RESPONSE

There was some confusion in the mailing and receipt of the Plan. We recommend that ABAG send their information to the governing body of each local agency--not just send the Press Release to the Public Works Department or to the City Clerk. Then the governing body can refer the matter to their staff for review and report back.

No comment necessary

How will the policy proposals be applied?

When a policy says a local agency should "consider" something, will it in fact mean the agency has to do it? The CCEAC is not convinced that there are real benefits to justify the costs to "cure the problem."

WQMP Amendments for 1980-81 are voluntary. Technical Memorandum No. 59, "Assessment of Erosion Control Costs to Local Governments and Private Sector" developed a method for calculating costs and benefits of erosion control. The memorandum used sample costs data from the Bay Area to show the benefits of implementing Policy 8 outweighs the costs.

In many cases the local agency simply will not have the resources required to implement and enforce the proposed Best Management Practices.

Permit fees can cover the administrative cost of implementing and enforcing BMPs. BMPs were selected for their cost efficiency and incur minimal cost to builders (see TM No. 59). Local jurisdictions can contract with outside entities or share resources and personnel with neighbhoring jurisdictions to reduce costs.

GENERAL
COMMENTS

Letter
Wallace L. Brazelton, Chairman
Board of Supervisors, Solano County
June 27, 1980

On Tuesday, June 24, 1980 our Board of Supervisors considered the proposed action by the ABAG Executive Board on the surface runoff plan set for July 17, 1980. Concern has been expressed to our Board that action by ABAG at this early date would not allow sufficient time for various interests, public and private, to receive, study, and comment on the proposed plan.

Given this concern, our Board of Supervisors acted to request that the ABAG Executive Board defer action on this important matter to allow all interested parties sufficient time to review the proposed surface runoff plan.

STAFF RESPONSE

Please refer to response to letter from COLAB.

GENERAL COMMENTS

	STAFF RESPONSE
Letter Stephen Williamson State Clearinghouse July 3, 1980	
The State Clearinghouse submitted the above listed environmental document to selected State agencies for review. The review is complete and none of the State agencies have comments. This letter verifies your compliance with environmental review requirements of the California Environmental Quality Act.	No comment necessary.
Public Hearing RPC, ABAG July 9, 1980	
Testimony	
Eveleth E. Hayden, Bay Area League of Industrial Assosiations Executive Vice President, said his organization had been involved in various aspects of water and bay quality. They feel the staff work and other input are constructive, and they urge adoption of this plan in the present form as one more step in the direction of desired results though not the end point itself.	No comment necessary.
Peter Alexander, Resource Analyst for the East Bay Regional Park District, stated the staff work was to be commended for confronting a problem given relatively little attention. He feels the proposals will reduce costs as they increase amenities. Sedimentation due to construction near regional parkland, specifically Lake Temescal, has created costly problems, and control at its source is absolutely necessary. He urged support for adoption of the plan amendments.	No comment necessary.

GENERAL COMMENTS

	STAFF RESPONSE
Public Hearing RPC, ABAG (con't)	
Dan Van Voorhis, Counsel for Coalition of Labor and Business in Alameda and Contra Costa Counties, said his organization seeks a balance between economic and environmental concerns. He said the staff has made a fine effort but some issues were not being sufficiently considered. He gave a memo to the RPC and went over the six concerns it contained: time, need, single-purpose planning, jurisdiction, cost-effectiveness, and inflexibility. He asked for consideration of these "policy" questions before the plan amendments reached the Executive Board.	COLAB concerns and staff responses for each of the six concerns are presented with the July 9 COLAB letter.
Ed Scott, District Engineer for the Asphalt Institute, asked for clarification in the Manual, page II-13, where roads made of concrete and asphalt were compared. Scott explained that their own studies show the differences comes from the nature of the surface rather than the materials from which roads were made, and the topic of surfaces had not been addressed.	See responses to June 24 1980 letter from Asphalt Institute.
Public Hearing Executive Board, ABAG July 17, 1980	
Testimony	
Bonnie England, COLAB, distributed a memorandum dated July 17, 1980 which expressed COLAB concerns. COLAB requested additional time for review and study of the documents.	Refer to comments on the July 17, 1980 COLAB letter.

Letter D. Van Voorhis, COLAB July 17, 1980	STAFF RESPONSE
COLAB believes that item 8 of the proposed 1980 Water Quality Management Plan (dealing with surface water runoff) should be deferred six months to allow adequate time for review by public and private agencies most directly affected. Our full concerns are as outlined in our letter to the ABAG Regional Planning Committee on July 9, 1980.	See response to COLAB's letter of June 18, 1980.
At said Regional Planning Committee meeting, staff overcame many of our objections and the concerns of many other Regional Planning Committee members by stating: 1) That the action items were all voluntary (i.e., that adoption of the plan constituted only the adoption of nonmandatory suggestions or guidelines): 2) That the manual of standards prepared in conjunction with said plan: a) Was not part of the plan; and b) Consisted of no more than an inventory or laundry list of potentially available controls (not necessarily suggestions appropriate for implementation in all cases).	
COLAB is concerned that the plan itself and the resolution proposed for the Executive Committee's action do not now reflect this intent.	The present language is clear on points (1), (2)(a) and (b). The RPC will review the language of the plan amendments and recommend changes, if necessary, to further clarify the language.
It is our deep-seated concern that unless the situation is clarified, local jurisdictions may be exposed to liability for failure to adopt and enforce all proposed controls and/or development projects may be held up by litigation if said projects fail to feature all of the controls proposed.	

III. Problems and Recommendations

Letter
Richard Wood, EBMUD
May 13, 1980

I have had the opportunity to briefly review the subject document and wish to make one comment: There should be some discussion in Section III on water quality problems associated with infiltration/inflow to sanitary sewer systems.

STAFF RESPONSE

Section III will be changed to identify infiltration/inflow as a water quality problem associated with municipal facilities.

Public Comment, Telephone
Arlene Adamson, private citizen
May 16, 1980

The problem statement should include pollution from breakdown of sewage conveyance facilities. Example: in her neighborhood, a pipeline lift station broke down and resulted in sewage overflows onto private property causing damage and nuisance.

STAFF RESPONSE

We agree, this will be added to the problem statement.

Letter
City-County Engineering Advisory Committee
Contra Costa County
June 25, 1980

Is there a real problem?

The CCEAC feels that silt from construction erosion is not a proved pollutant to the Bay; therefore, the policy proposals are falacious, offering more detailed solutions to solve an unproved problem.

STAFF RESPONSE

The Building Industry Association of Northern California, in its letter of June 19, 1980 (see Section 8.4), agrees with ABAG on the need for erosion control on construction sites. Silt from such sites pollute local waterways, reservoirs and other water bodies as well as the Bay.

Letter
Joanne Angvick, League of Women Voters
May 15, 1980

Page 55, Sewage Solids Generation, why change "use" to "reuse"?

STAFF RESPONSE

To make the language consistent with national usage.

1.6 SUPPORT BAY-DELTA PROGRAMS

Public Hearing
Executive Board, ABAG
July 17, 1980

Testimony

Fred Angelino, Bay Area Council of RCDs.

This action is written such that only a support position can be made. This policy should not preclude the right of individuals, organizations, counties, cities and special districts to adopt a position for or against a project.

We believe all local government agencies should be included as responsible agencies.

The Regional Water Quality Control Boards actually have the jurisdiction and the authority.

STAFF RESPONSE

The action precludes no other agency from advocating any position on proposals affecting Bay-Delta water quality. It indicates, however, that ABAG will support projects that improve water quality in the Bay and Delta. The EMP does not take away any other agency's rights.

These agencies are free to carry out similar actions and therefore do not need to be listed for an ABAG advocacy activity.

The comment implies ABAG does not have such jurisdiction or authority. Staff therefore disagrees.

Letter
Joanne Angvick, League of Women Voters
May 15, 1980

STAFF RESPONSE

Proposed Amendment to the Water Quality Management Plan, Environmental Impact Report

5.3 Consolidate 5 year list as compiled by RWQCB. Let ABAG add a 15 year list, to meet the 20 year requirement.

This division of labor would not produce any substantial savings in effort.

Letter
Fred H. Dierker, Executive Officer
San Francisco Bay Regional Water Quality Control Board
June 26, 1980

Policy Recommendations 5.3, page 26, proposes to consolidate the preparation of the 20-year municipal wastewater facilities project list. State regulations mandate the preparation of a 5-year municipal wastewater facilities project funding list not a 20-year list. Federal regulations require the designated 208 agency to prepare a 20-year funding priority list. Considering the present funding problems and the potential for future federal funding shortfalls, the preparation of a 20-year funding priority list is not justified from our perspective. The State Water Resources Control Board's staff, because of the need for closer coordination between the designated agencies and the Regional and State Boards, is working on procedures to facilitate coordination and eliminate duplication of effort in the development of project lists. The Regional Board's staff has requested the ABAG staff to modify the proposed Policy Recommendation 5.3 to reflect State regulations and needs which they have agreed to provide in the final plan recommendations document.

This concern was resolved at the July 9 RPC meeting between a representative of the RWQCB and ABAG. It was agreed to add the following to Action 5.3: "The exact nature of the 20-year list and details on participation by the RWQCB and ABAG would be resolved in negotiations among ABAG, the State and EPA."

Letter
Joanne Angvick, League of Women Voters
May 15, 1980

	STAFF RESPONSE
5.6 Mitigation should be in-kind, marsh damage (should be mitigated by) marsh rehabilitation.	In-kind mitigation would not be precluded. However, recreational benefits might offset economic or social impacts.
5.5 Add "enviromentally sound and" before "economically."	No comment necessary

Public Comment, Telephone
Mary Bernard and Richard Whitsel, S.F. Bay Regional Water Quality Control Board
May 27, 1980

	STAFF RESPONSE
Action 5.4 - Evaluation of potential recreational facilities, lists water quality impacts (page 29) that are very similar to Policy 5 impacts. In particular, how does recreation relate to treatment standards for wastewater facilities (e.g., bacteria and virus removal, suspended solids reduction, etc.) which are set by the Board?	Board standards are often set with some recreational or ecological potential in mind, e.g., shellfishing or fisheries.

Letter
City-County Engineering Advisory Committee
Contra Costa County
June 25, 1980

STAFF RESPONSE

Action 5.3 (Wastewater Facilities List)
It would be helpful to consolidate the 20-year wastewater facilities lists.

No comment necessary.

Action 5.4 (Water Quality Protection)
Unnecessary. Consideration of potential recreation facilities is already included in FWPCA requirements.

Action 5.4 implements the FWPCA requirements in the Bay Area.

Actions 5.5 and 5.6 (Water Quality Protection)
Unnecessary. Already covered by FWPCA requirement to consider potential recreation facilities, and by EIR/EIS regulations.

Action 5.5 implements NEPA and CEQA requirements in the Bay Area.

STAFF RESPONSE

Letter
W. Lloyd Gallagher, District Manager/Engineer
Contra Costa County Sanitation District No. 7-A
July 2, 1980

The District's comments pertain to Action 5.6 listed on Page 21 of the subject document. The District is in the middle of a $46 million project to construct a subregional wastewater treatment plant. Based on experience on this project, the burden on a future project of tieing in recreational facilities as a mitigation measure offsetting possible negative impacts of water quality protection, would be like the extra burden that breaks the camel's back. This recreational matter should be left entirely up to the local jurisdiction involved. In the area where we are building the Industrial Shore Wastewater Treatment Plant, any consideration of spending local funds for recreational facilities would have been laughed at. It was a major battle to obtain the minimum local funds to finance the local share of the wastewater project. This local funding was assured before the passage of Prop. 13. If the timing had been a year or so later, the project would never have been able to obtain local financing.

We recognize that with Proposition 13, many jurisdictions have been forced to reduce funds for recreation and planning of future recreational facilities. This action urges communities to combine recreation, where feasible, with water quality projects. In this manner, the recreation facility would require a fraction of its original cost. Of course, this must be considered on a project-by-project basis and depends upon local interest and approval.

On the other hand, Honolulu's Sand Island Wastewater Treatment Plant is built on a future park area, and the City of Honolulu spent $5 million to enhance the project architecturally over-and-above what would have been funded by E.P.A.

The recreational facility consideration should be optional to the local jurisdiction involved, not mandatory.

In particular projects, award of grant monies and/or permit approvals may be dependent upon a commitment to mitigation measure(s). In this case, it becomes mandatory. However, a community can reclaim a benefit by planning such a mitigation as a multi-purpose measure.

Letter
Paul Lanferman, Alameda County Flood Control and
Water Conservation District
May 5, 1980

	STAFF RESPONSE
It is hoped that the comments that follow will help to improve this Manual, for in its present form it does not appear very useful.	
Needs a Summary or Table of Contents with the name, a brief description of purpose and use, a sketch and a reference to location of details in manual, for each practice.	Agreed
Practices should be grouped according to purpose with a brief introductory page for each group describing how to choose among the practices.	Agreed
The map on the back of the April 9, transmittal sheet is of no practical use due to its scale, and should be deleted.	Map is not intended for use in Manual. Comment has been forwarded to Council of Bay Area Resource Conservation Districts.
The format of the summary sheets for each practice seems cumbersome in that there is much duplication between headings (e.g., some information under "Where" and "Why").	Summary sheets have been deleted.
There are many undefined terms used which most practitioners could not be expected to know (e.g., the difference between "highly erodible" and "critically eroding" areas, ordinary conservation treatment and management," etc.).	These terms were removed in the draft Manual.

Letter
Paul Lanferman, Alameda County Flood Control and
Water Conservation District
May 5, 1980

	STAFF RESPONSE
There are inconsistencies in the way terms are used in the standards. For example, under Permanent Critical Area Planting Standard, scope means the scope of work furnished by the contractor whereas under Permanent Diversion Standard, scope means the scope of applicable uses of the practice.	Scopes will be revised to reflect only the latter definition.
The SCS standard for most practices is to protect up to the 10-year storm, and this is reflected both in the standards and the criteria. Virtually all local jurisdictions have their own design storm (for drainage design and flood protection purposes). Therefore, standards proposed here should not specify a design storm. It should, instead, be clear that specifications assume a specified design storm.	The Manual does not recommend a design storm. It will include a table of rainfall intensity, duration and recurrence for various Bay Area locations.
A more appropriate title for the "Design Criteria" section would be "Design Considerations" since no specific criteria are given.	Agreed
There are numerous effective methods of revegetation available. The Benefits and Unit Cost sections of Permanent Critical Area Planting Standard apply specifically to the method given in the specifications. Perhaps these two sections should be in the specifications rather than in the standards. The standards should, however, indicate the range of possible methods and their criteria for use at least in summary.	Benefits section deleted from Manual. Unit costs now reflect common range.

Letter
Paul Lanferman, Alameda County Flood Control and
Water Conservation District
May 5, 1980

	STAFF RESPONSE
Specifications for the various practices are commonly not suited for use in the Bay Area. It is strongly recommended that no specification be included which has not been thoroughly analyzed and adapted for Bay Area use and that even those that have been so analyzed have the word "example" or "sample" superimposed across the entire page in large letters (using a screen so as not to interefere with legibility would be one way). Failure to use this approach will surely lead to considerable misapplication of these practices.	Specifications have been marked as sample.
Permanent Critical Area Planting Specifications	
a. Typo - paragraph 1A, line 2 - "water holding capacity."	Noted and corrected.
b. Paragraph 2 - On construction sites "track-walking," that is, running a tracked vehicle up and down slopes to provide ridges and grooves on contour, is a commonly used method of roughening slopes.	Will be added to Manual.
c. Paragraph 3 - The implication is that if you can't plant in September, don't bother. We would suggest that planting can be done at any time of year and still be beneficial. On a construction site a free choice of planting time is not usually possible.	Standard has been reworded to specify optimum planting times for greatest benefit.

Letter
Paul Lanferman, Alameda County Flood Control and Water Conservation District
May 5, 1980

STAFF RESPONSE

Permanent Critical Area Planting Specifications

d. Paragraph 4 - The reason for categorizing seed species into four groups is not clear.

These commonly available, inexpensive seed mixes have been shown to be effective.

e. Paragraph 7 - It appears that the hydromulch specification is much less stringent than other methods (only 1500 lb/ac of mulch compared to 4000 lb/ac for other methods) which may be inappropriate considering it is reserved for the most difficult slopes.

Available test data indicates this to be an effectiveloading rate for hydromulch.

Permanent Diversion Standard

a. Purpose - Suggest rephrasing this sentence, "...water away from highly erodible areas to..."

Agreed

b. Conditions where this practice applies, last paragraph - The meaning of the term "terraces" is not clear since it is not a practice described by this manual.

CBARCD did not recommend terracing as a construction erosion control measure.

Specifications provide for structural practices which are generally substantially oversized in order to provide for a broad range of conditions. This can generate problems on a construction site, and it should be clear that sizes can be reduced if changes are supported by proper engineering and standards are still met.

Agreed

Letter
Paul Lanferman, Alameda County Flood Control and Water Conservation District
May 5, 1980

	STAFF RESPONSE
Specific examples of uses of these practices should always be given for maximum understanding of their purpose.	A summary of table of uses will be provided.
Land grading is not an erosion control practice. Perhaps a better title for this practice would be "Special Grading Techniques." The techniques recommended should then be listed and briefly described in the standards section.	Practice has been retitled.
Sediment Basin Standard	
a. General - There are many other suitable locations for sediment basins on a construction site than across a waterway, in fact, this would be one of the least suitable sites in terms of basin size because of the large watershed implied.	Definition has been changed to reflect more general applications. Reference to waterway deleted.
b. Scope, paragraph 1 - Many if not most construction site sediment basins carry one or more of the risks listed in this paragraph, hence, by this standard, only rarely would a sediment basin be a usable practice.	Scope has been reworded to make basin use less restrictive.
c. Scope, paragraph 3 - The definition of a Class (a) hazard should be spelled out since practitioners may not have access to SCS definitions.	The definition has been changed to reference a readily available public document.

Letter
Paul Lanferman, Alameda County Flood Control and
Water Conservation District
May 5, 1980

STAFF RESPONSE

Sediment Basin Standard

d.	Scope, paragraph 4 - Temporary basin design should accommodate use up to 5 years on larger construction sites.	We will evaluate this in 1980-81.
e.	Scope, paragraph 5 - This is a valid observation but belongs in the General Section not as limiting condition on basin use.	This has been put under "Design Considerations."
f.	Benefits - It is not clear why a 25-year storm has been used to establish temporary basin trap efficiency when a 10-year standard has been used for most other practices. Our calculations indicate that a basin only half the size specified here would have a long term trap efficiency of about 85%.	Recommended basin sizing has been reduced to 67 cubic yards per acre (interim).
g.	Specifications are extremely stringent. In some cases, this may be appropriate, but for small sediment basins on low slopes they may be inappropriate.	Specifications are "sample" only and will be re-evaluted 1980-81.
h.	It is suggested that much of the information in the SCS standards and specifications published by the SCS Maryland Office could be usefully employed here.	Maryland standards were reviewed prior to preparation of ours.

8.3 Adopt
Manual

Letter
Paul Lanferman, Alameda County Flood Control and
Water Conservation District
May 5, 1980

	STAFF RESPONSE
Storm drain outlet protection is standard practice in most local jurisdictions at present. There are many locally derived standards and specifications available. We recommend their use in lieu of more general standards and specifications. Ours are attached for your information and use if desired.	Standards and sample specifications are advisory only. Each jurisdiction may use its own standards in lieu of those in the Manual.
Straw Bale Dike - A standard drawing is referred to under Design Criteria but is not included.	Drawings are being added.
Subsurface Drain - The relationship of this practice to erosion and sediment control on construction sites is very tenuous. We would suggest it be omitted.	CBARCD recommends this standard.

RPC Ad Hoc Committee Meeting
ABAG Studio Conference Room
June 4, 1980

Committee Comments	STAFF RESPONSE
What is the extent of public review of the Manual so far? Have any comments been received from Public Works Departments in cities or counties? How has the building industry responded? Have they had adequate time to review the Manual? (Bort-Alameda County, Eastman, RWQCB)	Over 1,000 copies of the Manual have been sent to various groups including Public Works Departments of all cities and counties in the Bay Area. The Manual has been reviewed by the Water Quality Technical Advisory Committee of which some Public Works Departments are a part. So far, very few comments have been received. ABAG staff met with the Building Industry Association (BIA) on May 30 and June 2 to discuss the Manual and other technical work. Major developers from Santa Clara, Contra Costa and Alameda Counties were present. They are currently reviewing the material and will comment at a later date.
Should the RPC follow up with a letter to each jurisdiction (that received the Manual) asking for a report from their Public Works Department? (Bort) Discussion: Requesting a written response from cities/counties would force them into a more active mode to review the Manual. However, some jurisdictions don't have the capability or the time to review this material and it would be a burden to them. If they felt strongly enough, then they would be responding. The city and county engineers will be meeting on June 14 to review the material and may have comments afterwards (Chuck Zahn, Contra Costa County Planning Department).	Local jurisdictionns would adopt portions of the Manual to fit their needs. It would be appropriate for them to conduct a review process at that time. As a Manual for adoption by ABAG, this has received substantial review by the Water Quality Technical Advisory Committee.

RPC Ad Hoc Committee
ABAG Studio Conference Room
June 4, 1980

STAFF RESPONSE

What is the implementation time frame? When are the cities and counties supposed to adopt and use the Manual?

The Manual of Standards is currently being revised for clarity and improved readability and should be ready by July 17. The aim is to have local jurisdictions adopt the parts applicable to them and look towards implementing them on an as-needed basis.

The 1980-81 WQMP workplan includes a task to visit all cities and counties within the region and present the model ordinance and manual, showing the benefits they could receive.

Public Comment

The RPC should carefully review all of the material before acting on it. There is a lot of useful technical information contained in it. A copy of this material should be sent to the Alameda County Planning Department. The citizens of Alameda County have been trying to get the county to look at this for years. (Barbara Shockley, Citizen-San Lorenzo)

Comment noted, a copy of the WQMP and the Manual of Standards has been sent to the Alameda County Planning Department.

Committee Comments

Not all cities have public works departments nor can they afford these services. Can contractual arrangements be made between a city and the county public works departments (or a consultant) to review erosion control permits and implement such a program? (Jean Smith, El Cerrito)

A good point was raised. We will add a section in the Manual on Implementation. We believe that cities, counties and RCD's can provide mutual assistance through contractual arrangements. Contractors may also be used.

Public Hearing
Executive Board, ABAG
June 19, 1980

	STAFF RESPONSE
Erosion control and soil conservation practices have been proven to be cost effective. The Manual has only 16 specifications. The Soil Conservation Service (SCS) uses all of these and more (over 60 total). The SCS currently has Memorandums of Understanding (MOU) with many jurisdictions to review projects. (Bill Bruner, SCS)	See response to previous comment.
Discussion: Can small cities enter into a MOU with SCS to review erosion control in projects? This could be another alternative method of implementation. (Jean Smith, El Cerrito)	See comment above presented by SCS.
Phillip Abel, Landscape Architect. He could not attest as to the completeness, or latest state of the art on matters of silt control in the proposed handbook, but considered it to be a positive step in the right direction.	No comment necessary
Katherine Hammer, Solano County Planning Department, said that Solano County had adopted an erosion control ordinance with requirements similar to those in ABAG's model. The County also had prepared a handbook of specifications intended as a guide both to developers, contractors and to the County's staff. So far they had not encountered any insurmountable difficulties, and Solano County had found enactment of erosion control regulations to be a feasible course of action.	No comment necessary

Public Hearing
Executive Board, ABAG
June 19, 1980

	STAFF RESPONSE
Rod Kilcoyne, Citizens Advisory Committee on Clean Water, and associated with a Bay Area Resource Conservation District. The erosion control measures proposed by ABAG staff in the Manual were basically something that had been done for many years, were not new technology, but just common sense. He thought the costs associated with erosion control ordinances would go down.	No comment necessary
Paul Lanferman, Alameda County Flood Control District, said they supported recommendations made in the 1980 Bay Area Water Quality Plan. General concept of erosion and sediment control was extremely important to them as well as to all other flood control districts or other public agencies which had responsibility for removing silt. It was not only very difficult and very expensive to remove silt from any kind of flood control or underground drainage facility, but it was becoming almost impossible to dispose of that material, and the cost of disposing of it was getting to be the real issue. They considered the Draft Manual to be an excellent step in the right direction. They felt the manual should be subject to change as experience dictated and revised on an annual basis.	No comment necessary

8.3 Adopt
Manual

Letter
Joanne Angvick, League of Women Voters
May 15, 1980

STAFF RESPONSE

(Action) 8.3 important to have in EMP

No comment necessary

Letter
Rod Herman, BIA Comments on Surface Runoff Plan
June 19, 1980

II-84 It has been shown in this area that (sediment) basins of 67 cubic yards (volume) per acre (drained) is quite adequate. This assumption is backed up by the Soils Conservation Service. In many areas, it is near impossible to physically construct a basin this large. By doubling that size, you would put a severe cringe [SIC] in many building plans. Many development plans would be scrapped--simply because there would be no way possible of constructing a basin at a size of 130 cubic yards per acre. The standard should remain at 67.

Staff agrees to an interim standard of 67 cubic yards volume per acre. 1980-81 workplan has task to evaluate basins constructed in Bay Area.

Letter
City-County Engineering Advisory Committee
Contra Costa County
June 25, 1980

STAFF RESPONSE

Actions 8.3 and 8.4 (Manual of Standards for Surface Runoff Control Measures)

Standards for Erosion and Sediment Control Measures can be helpful guidelines. Their cost effectiveness is uncertain and must be proven.

See responses to this letter in Sections, "General Comments" and "8.4 Adopt Erosion Control Ordinance."

The major issue here is not the lack of model ordinance or technical guidelines, but the practical problem of enforcement--assuring that the erosion control measures are really done during construction.

Manual of Standards - Appendices: Unnecessary to reprint USDA or other agencies detailed data. A simple reference and brief description of other agencies data would suffice, and would avoid confusion when the other agencies revise their data.

Data was added for convenience and completeness. Manual will be formatted for ease of revision.

8.3 Adopt
Manual

Letter
E. J. Scott, The Asphalt Institute
June 24, 1980

STAFF RESPONSE

Comments on "Standard for Street Surface Material Selection"

The specific make-up of street surface contaminants is a function of many site conditions and varies widely. As I discussed at the meeting on 6-18-80, my limited research revealed that the concrete streets surveyed were in Cincinnati, Tulsa, Milwaukee, Baltimore, Atlanta and Seattle. The site conditions do vary extensively not only among these cities but especially between each of these cities and the San Francisco Bay Area.

The statistical procedure used is analysis of variance. Concomitant factors considered, where appropriate, were: condition of street surface, average daily traffic levels, land use adjacent to the street, region of the country and season of the year. The effect of these factors was taken into account when the significance of the differences in street surface contaminant accumulation rates between asphalt and concrete streets was computed.

Some of the site conditions that would effect the accumulation rate and which in my opinion cannot be accounted for by a regional factor are grade, alignment, width of pavement, median conditions, landscaping both in the median and adjacent to the curb, the presence or absence of sprinklers in median and adjacent to curb as well as the frequency of operation, the makeup and speed of the traffic, and the age of the facility.

These factors were not included in the analysis due to a lack of data.

The condition of the street be it asphalt or concrete was not defined very precisely.

We agree. However, it was the best available data.

The differences due to type of surface for each material such as dense-graded asphalt surface, open-graded asphalt surfaces, a slurry-sealed asphalt pavement, a grooved concrete surface, a heavily straited concrete surface produced by heavy brooming or burlap dragging was not addressed at all.

The analysis was not designed to make such distinction.

Letter
E. J. Scott, The Asphalt Institute
June 24, 1980

STAFF RESPONSE

Comments on "Standard for Street Surface Material Selection"

The fourth paragraph under Sources of Street Contaminants states that roadway abrasion for streets in good repair is insignificant when compared to contributions due to traffic activities and erosion of local soil. Traffic activity is another key to the loading rate and accumulation. It has been my observation that most urban streets which are surfaced with concrete are major arterials thereby resulting in traffic activity which is fast moving with limited stops and starts and therefore would not contribute equally to the heavy metal accumulation. This falls in line when you consider the Federal Highway Administration figures that 94% of all paved mileage is surface with asphalt. Again, I do not believe that the statistical analyses used to arrive at the conclusions for the proposed standard for street surface selection takes into account all the variables necessary to reach a definite conclusion.

The analysis does not exclude the possibility that asphalt is not the cause of higher contaminant loading rates. Some third causative factor may be correlated with asphalt streets. However, water quality benefits will be derived in those instances when the third factor and asphalt or asphalt and third factor causes the higher loading rates. This benefit justified the conclusion.

I touched on surface type such as open-graded asphalt surfaces earlier and I recommend additional study on the effects of different surface treatments. This recommendation is partially based on results of monitoring storms in the San Jose study whereby the monitored storms had a much smaller removal effect in the oil and screenings test area than in the asphalt streets with no additional surfacing. Maybe the oil and screenings or an open-graded surface acts as a holding area as well as a filter system which can alter the shock load effect at the beginning of a storm system. This could be an advantage and definitely merits additional study.

We agree. We will consider such a study and seek funding for it.

8.3 Adopt
Manual

Letter
E. J. Scott, The Asphalt Institute
June 24, 1980

STAFF RESPONSE

Comments on "Standard for Street Surface Material Selection"

I also would be surprised if the concrete surfaces were sampled along a transverse joint which I think would constitute a major collection point for pollutants.

We have no data on whether traverse joints of concrete streets were sampled. We have no comment on your claim that these joints constitute a collection point for pollutants.

In my opinion the site variations are to numerous and vary so extensively that to give one product preference over another as a Best Management Practice is not realistic and should not be promoted by ABAG even in an advisory nature.

See staff response above.

We also discussed roadway abrasion in the meeting on 6-18-80 as well as heavy metals associated with asphalt pavements. The second paragraph under Sources of Street Surface Contaminants states that asphalt pavement has a high concentration of nickel but no mention is made of the pavement contributing to concentrations of other heavy metals therefore, unless other data is forthcoming, I believe we can safely say the crude source is not a consideration.

The analysis was not designed to indicate and does not state that crude is the source of street surface contaminants.

Letter E. J. Scott, The Asphalt Institute June 24, 1980	STAFF RESPONSE
Again I recommend deletion of the "Standard for Street Surface Material Selection" from your proposed Manual of Standands for Surface Runoff Control Measure for the following reasons:	
1. Insufficient data relating to streets and various conditions in the local area.	See above responses to this letter.
2. Pollutants generated by traffic activity and therefore if the pollutants are not held on the roadway they are adjacent to the roadway and also end up in the receiving water.	There is no conclusive data to support the assertion that pollutants are traffic-generated. There is also no clear indication that street surface contaminants would reach receiving waters as readily from areas adjacent to roadways.
3. Loading intensities across a typical street revealed that 78% of the material was found within 6 inches of the curb and over 95% occurred within 40 inches of the curb, therefore lets' not throw the baby out with the bath water and change the whole street surface to accommodate the first 40 inches.	Contaminants found near the curb may be generated from the entire roadway and subsequently carried there by air currents, etc.
4. In relation to automobiles, the air pollution control standards for those registered in California are considerably different than controls in other states and I feel this aspect should be evaluated to determine the contribution to heavy metals.	See above responses to comments regarding asphalt street types.

Letter
E. J. Scott, The Asphalt Institute
June 24, 1980

	STAFF RESPONSE
5. The surface selection should also take into account energy requirements and a 9-1/2 inch Full-Depth Asphalt Concrete Pavement requires 264,100 Btu/yd2 whereas a comparable non-reinforced 8 inch Portland Cement Pavement requires 541,600 Btu/yd2.	We agree. The stand applies only when the balance of all other considerations offers no clear basis of selection between street surface materials.
6. Initial cost of construction should also be considered and enclosed is a copy of Page 9 from Paving Forum/Summer 1980 which shows that asphalt concrete continues to run about 73% of the cost of Portland Cement Concrete.	We agree. However, initial costs should be amortized over useful life of the street surface material. Maintenance costs should also be considered.

Letter
E. J. Scott, The Asphalt Institute
June 24, 1980

STAFF RESPONSE

Comments on "Standard for Street Surface Material Selection"

Rainfall duration and intensity appears to be an important parameter in the pollutant removal from the street surface. The period of study for the San Jose area was characterized by low rainfall quantities. A total of 8.2 inches of rain fell from November 1976 through December 1977 as compared with a long-term average for that period of 16.53 inches. The study was carrired out in the spring of 1977. Therefore, it seems feasible that pollutant loadings could have built up to a higher concentration and be reflected as such in the San Jose study.

In addition to San Jose data, sample measurements from Castro Valley, taken since the recent drought, were included in the data set.

8.3 ADOPT MANUAL OF STANDARDS

Letter
Paul E. Lanferman, Manager - Alameda Co. Flood Control District
July 7, 1980

Alameda County Flood Control and Water Conservation District has been and continues to be an active participant with ABAG on 208 activities, and we support programs directed to improve water quality. We are pleased to see the emphasis placed on erosion control since this is an area of special concern to flood control agencies. This District is actively pursuing actions to quantify and abate excessive sedimentation. The Flood Control District as an operational public works agency, (i.e., an agency having to put into practice adopted public goals, objectives and policies) wants to emphasize the need for practical, cost effective control measures. We support the effort to produce an informational manual of control measures for local agency guidance. Our primary interest, as an operational agency, is that the policy guidance measures in the Manual of Standards for Surface Runoff Control will be used as a guide only, and will not immediately become mandatory standards requiring actions which may not fit the local situation. We would like to suggest the manual very clearly (bold type) indicate its intended use. As we gain more experience in the area of erosion control, we will work with ABAG in updating the manual until we feel it meets most local conditions.

The Alameda County Public Works Agency and this District have been embarked on implementing erosion control measures which predated our cooperative erosion control

STAFF RESPONSE

The 1980 recommended plan amendments to the water quality portion of the EMP were modified to separate the Manual from the EMP and to clearly indicate that Actions 8.4 and 8.5 are voluntary. The RPC, in its July 9, 1980 resolution, recommended that ABAG adopt the Manual and that each city and county "consider adoption of these portions of the manual as needed to improve water quality and to minimize future water quality problems." The Introduction to the Manual clearly states its intended use.

	STAFF RESPONSE
Letter Paul E. Lanferman (con't) workshop with ABAG in April 1979. The Public Works Agency has been requiring grading and erosion control plans for all subdivisions and Planned Developments. Many of the concepts used in the Draft Manual of Standards have been required of and used by developers. The Public Works Agency is currently developing the Alameda County Grading Ordinance as well as a Watercourse Protection Ordinance. The reason for indicating what our agency is doing is to show the responsiveness of a local agency to problems that are clearly identified. Suggestions for improvement in our operations are always welcomed.	Staff commends the county for their efforts to control erosion problems and for their assiteance to the Bay Area "208" program.
The ABAG manual is recieved as a guide which we support but it should be understood that local conditions will often dictate variations of the control measures and as such they should not yet be fixed to the point that they become specifications for regulations by any public agency.	
Letter Rod Chisolm, Environmental Branch, Army Corps of Engineers July 2, 1980	
Adoption of the Manual is an administrative action and will therefore not require Department of the Army authorization. However, construction activities pursuant to the Manual may require such authorization. Additional information regarding permit requirements may be obtained by contacting our Regulatory Functions Branch at (415) 556-5966.	Comment noted.
The information regarding the Corps regulatory jurisdiction given in Table II.C.2.1 on page II-27 is incorrect or incomplete in several instances. We sug-	Section has been deleted.

STAFF RESPONSE

Letter
Rod Chisolm (con't)

gest that the following information be used in the table:

Agency: Army Corps of Engineers.
Enabling Legislation: (a) P.L. 92-500, Section 404 and (b) River and Harbor Act of 1899, Section 10.
Primary Goal(s): Water Quality and Navigation.
Water Quality Criteria: Compliance with applicable effluent limitations, water quality standards and management practices, and prevention of unacceptable adverse effects on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreation areas.
Areal Jurisdiction: (a) Waters of the United States, including adjacent wetlands, and (b) Navigable Waters of the United States.
Activity(ies) Jurisdiction: (a) Any activity involving the discharge of dredged or fill material into Waters of the United States and (b) any structures or work in Navigable Waters of the United States.

Public Hearing
Executive Board, ABAG
July 17, 1980

STAFF RESPONSE

Testimony

Ed Scott, Asphalt Institute, resummarized previous comments regarding Public Works Standard No. 3 "standard for street surface material selection" in the "Draft Manual of Standards for Surface Runoff Control Measures." He urged that adoption of that particular standard be deferred until more detailed information could be provided.

This standard is based on the high statistical correlation of pollutants with asphalt streets although the reason is not understood. Additional study will be conducted in the next two months on this subject and a report made to RPC. For detailed comments and responses, refer to the letter from the Asphalt Institute on June 24, 1980.

Bill Bruner, USDA-Soil Conservation Service, presented a letter stating the position of the SCS on the "Manual of Standards." Because ABAG had made modifications on the material originally submitted by SCS under contract, SCS requested that the name of their agency be removed from the Manual.

ABAG recognizes this request. Every relevant standard contains a disclaimer indicating that the information was obtained from the SCS/BACRCD and that editorial changes were made for clarity and understanding. In no case were changes to pipe sizes, loading rates, capacity or other numerical dimensions made without SCS/BACRCD consultation. The intent of any changes was to make the Manual more easily readable and to eliminate reference to certain conditions which would generally not be a problem in the Bay Area.

Fred Angelino, Bay Area Council of Resource Conservation Districts, restated the SCS request to delete all references to the SCS and the Council from the Manual.

See preceding response to Bill Bruner, SCS.

Mr. Angelino believes that RCDs are best suited to be the responsible agency for getting voluntary implementation of best management practices to control agricultural-related water pollutants. RCDs have worked in this role since 1943 successfully.

We agree; however, the intent of the Manual has never been to control erosion in agricultural areas. The Manual was written to provide information for cities and counties dealing with construction-related erosion problems.

Letter
Bill Bruner, USDA-Soil Conservation Service
July 17, 1980

STAFF RESPONSE

Thank you for the opportunity to offer comment on the product you have under consideration tonight. Any input that I could make would have more meaning if I could have had a copy of the draft that is being reviewed. Therefore, I am limiting my comments to the basic data that supports the offered product. That is, the Standards and Specifications as presented in the May, 1980 draft, "Manual of Standards and Specifications for Surface Runoff Control Measures."

The Soil Conservation Service provided the National and California Standards and Specifications, as well as data from the Maryland Handbook, to the Council of Bay Area Resource Conservation Districts in producing Task 14. The SCS and RCDs use only the National and California Standards for designing and applying conservation practices.

These materials were transmitted to the Association of Bay Area Governments on May 9, 1980 with the stipulation that, "If you (ABAG) choose to alter the Standards and Specifications in any way, we ask you to remove any reference on the pages that identify them as being either our own, or those of the USDA, Soil Conservation Service".

Materials transmitted on May, 9, 1980 under this stipulation were not used in preparation of the Manual. The stipulation is, by its own words, inapplicable.

The May, 1980 Draft Manual contains many changes and is referenced by "Control Measures that are based on California and National SCS data, etc."

The Manual does not reference any standards as official SCS standards.

The SCS does not recognize these modified practices as official Standards and Specifications.

Letter Bill Bruner, USDA-Soil Conservation Service (Cont'd.)	STAFF RESPONSE
In furnishing technical assistance to individual land users, and units of government, we have utilized our National and California Standards and Specifications. These criteria have been in use since July, 1942 throughout the Bay Area. I would like to stress the point that the application of a conservation practice requires the direction of a qualified technician or engineer. I strongly recommend that you examine the capability of existing data, and in the few instances where recommended changes are needed, then please advise me. The necessary steps will be made to clarify the Standards and Specifications.	The Manual clearly states that on-site application of the Standards be under the supervision of a qualified professional. Mr. Bruner and the Bay Area Council of RCDs have been advised of the need for changes in SCS standards as applied to construction activities in the Bay Area.
In view of the fact that the Standards and Specifications provided were not used as presented by letter from the Council on May 9, 1980, I therefore ask that you not reference SCS as the source of this data.	See response above. The references used were in accordance with accepted procedures for technical documentation.

8.4 Adopt
Erosion
Control
Ordinance

Public Hearing
Work Program Coordination Committee
May 15, 1980

STAFF RESPONSE

Testimony

Frank Stead, Citizens Advisory Committee on Water Quality. Stead reported that Advisory Committee had studied the plan recommendations for four months. He was impressed with technical report back-up, and highly recommended adoption of erosion control measures into grading ordinances.

No comment necessary

Bill Bruner, Soil Conservation Service, U.S. Department of Agriculture. Bruner reported that he had been working with Council of Bay Area Resource Districts, and agreed that good management practices had been appropriately identified in tasks for erosion and sediment controls.

No comment necessary

Letter
Joanne Angvick
League of Women Voters
May 15, 1980

STAFF RESPONSE

8.4 Will cause financial impacts and therefore will be a need to simplify permit.

Financial impacts in other jurisdictions have been very minimal. Further simplification would undermine effectiveness of ordinance. Please refer to ABAG Tech Memo 59 on costs of program.

8.4 Adopt Erosion Control Ordinance

RPC Ad Hoc Committee Meeting
June 4, 1980

Committee Comments	STAFF RESPONSE
Who enforces the erosion control ordinance (e.g., inspection of erosion control work at a construction site?) Can this be done within the existing system? Solano County just enacted a new grading/erosion control ordinance--how do they handle it? (Barbara Eastman, RWQCB)	Generally the city or county Public Works Department or the Construction Site Inspector within the Building Inspection Department would enforce erosion control measures. Building inspectors (i.e., plumbing and electrical) would not inspect erosion control. In Solano County, the new ordinance is administered within the existing Public Works Department. Additional grading inspectors will be brought on as needed.
Would a jurisdiction be expected to adopt a complete new ordinance based on the ABAG model ordinance?	It is anticipated that a jurisdiction would review the model ordinance for the parts applicable to their conditions and modify and adopt it as needed. For example, the Solano County ordinance references Chapter 70 of the Uniform Building Code and supplements the grading ordinance with erosion control amendments patterned after the ABAG model.
Would the erosion control measures apply to single-family units, rural areas and urban fringe areas? (Barbara Eastman, RWQCB)	The model ordinance exempts erosion control for grading totalling 1/4 acre and on slopes of less than 10% that are not in a critical area.
Would State legislation in the form of tax breaks for implementing erosion control be needed to encourage builders to implement these measure? (Barbara Eastman, RWQCB)	This program would be administered on the local level and erosion control would be mandatory upon the builder.

8.4 Adopt Erosion Control Ordinance

RPC Ad Hoc Committee Meeting June 4, 1980	STAFF RESPONSE
Committee Comments	
For large expensive developments such as Jensen Ranch in Alameda County, erosion control could amount to 0.1-0.2% of the total project cost. Projects of this nature have many additional costs which can account for a much higher percentage and make erosion control costs insignificant. (Joe Bort, Alameda County)	For flat areas, the incremental cost to a house would be $20-50 and is not prohibitive. For hillside areas with custom homes selling at over $100,000, a $250-550 increase is reasonable.
Testimony	
The Water Quality Citizen's Advisory Committee recommends adoption of the 1980 WQMP. Aside from the costs associated with erosion control, the benefits associated with erosion control should be pointed out. Our overall quality of life should be improved by things such as reduction of dust emissions from construction sites to adjacent neighhorhoods and improvement of the neighborhood character through vegetative planting to control erosion. (Frank Stead, Chairman, Water Quality CAC)	No comment necessary
The increased costs to developers should be viewed in the perspective that money is saved in the long run because no remedial work needs to be done on a stablized site. (Barbara Shockley, Citizen, San Lorenzo).	No comment necessary

8.4 Adopt
Erosion
Control
Ordinance

Letter
Steven G. Speno, Building Industry Association,
Southern Division
June 18, 1980

STAFF RESPONSE

While we concur that there are a number of individual situations where soil erosion poses a problem and that such situations need careful management, we nonetheless believe the proposed ordinance is too encompassing and will have limited applicability or value to the vast areas of our region which experience little hillside development.

Santa Clara County Planning Department expects future growth to occur in hillside areas.

We strongly believe that erosion control measures should not be dealt with separately, but should be integrated with established grading ordinances and existing permit processes and inspection process would be duplicative, ineffective, and non-cost effective.

We agree and our Model is designed to be incorporated into any existing grading ordinance.

We strongly believe that projcts below a 2% slope should be exempt from erosion control measures unless there is reason to believe that site specific conditions necessitate review. We are also concerned that the reporting schedules suggested in the model ordinance are too extensive, and should be moderated to reflect the actual weather conditions being experienced.

Please see responses to BIA, Eastern Division comments.

8.4 Adopt
Erosion
Control
Ordinance

Public Hearing
Executive Board
June 19, 1980

STAFF RESPONSE

Testimony

Kenneth Burger, Water Management Specialist-East Bay Park Regional District

Although EBRPD operates parks located in open space areas scattered throughout Alameda and Contra Costa counties, the surface waters within the parks are not excluded from the effects of poor land use practices, nutrient enrichment, and bacterial contamination. The worst water quality problem facing the Park District is that of sedimentation in streams and reservoirs due to erosion from various activities by man, especially unregulated development.

No comment necessary

Your staff...has developed a "model erosion control ordinance" that we believe will be the solution to many of the erosion problems. The proposed ordinance is a fine example, I think, of the old adage "an ounce of prevention is worth a pound of cure."

8.4 Adopt
Erosion
Control
Ordinance

Public Hearing
Executive Board, ABAG
June 19, 1980

	STAFF RESPONSE
Katherine Hammer, Solano County Planning Department, said that Solano County had adopted an erosion control ordinance with requirements similar to those in ABAG's model last December. The County also had prepared a handbook of specifications intended as a guide both to developers, contractors and to the County's staff. So far they had not encountered any insurmountable difficulties, and Solano County had found enactment of erosion control regulations to be a feasible course of action.	No comment necessary
Rod Kilcoyne, Citizens Advisory Committee on Clean Water, and associated with a Bay Area Resource Conservation District. The erosion control measures proposed by ABAG staff in the Manual were basically something that had been done for many years, were not new technology, but just common sense. He thought the costs associated with erosion control ordinances would go down.	No comment necessary

Letter Rod Herman, Building Industry Association June 19, 1980	STAFF RESPONSE
We are deeply concerned about the proposed surface runoff control manual of standards and model ordinance.	
We would like the ABAG Executive Board to be aware of our industry's strong desire to see the model ordinance be finalized in a a form workable not only for the area's builders and developers, but also for the cities, counties and other municipalities which might adopt the ordinance, either in whole or in part. And, perhaps most importantly, we would like to see a plan that would not hinder the future homebuyer in his ability to purchase a new home.	See response to Joe Bort, Alameda County
Adding erosion control measures which, in certain instances, may make no significant difference in the actual amount of surface runoff, adds to that housing pricetag.	The recommendations in the Model Ordinance were amended to lessen the requirements for larger developments in flat and non-critical areas.
While we definitely agree that erosion control measures must be taken, we feel that the draft ordinance, in its present form, is much too stringent and doesn't allow enough flexibility to communities that might use the model ordinance. Larger cities no doubt would devote considerable time to review and reshape the ordinance to fit their needs and conditions. However, we are concerned that smaller communities wouldn't have the time nor the funds to engage in such a thorough review. These communities might simply adopt the ordinance "as is" and by doing so, place an undue burden on the housing industry. And, on the housing consumer.	The Model Ordinance represents an essential and adequate program. Jurisdictions are free to adopt variations of the ordinance to suit their needs.

Letter
Rod Herman, Building Industry Association
June 19, 1980

		STAFF RESPONSE
201.02 (b)	A quarter-acre is much too small as the minimum. It would place an undue burden on particularly the small builder. If the property was in a steep area, he should take erosion control measures. In flat areas, though, the minimum should be 10 acres. Consideration should be given to degree of slope.	The 1/4 acre exemption is recommended but discretionary for the jurisdiction. The ordinance also recommends relatively flat sites of up to 5 acres operate under a greatly simplified "minor permit." These measures should reduce administrative and construction costs to the extent commensurate with effective erosion control.
201.02 (f)	A watercourse is not adequately defined.	Watercourses would be defined and designated by local jurisdictions.
202.02 (a, 2)	Two contour levels extending a minimum of 100 feet off-site may require excessive topographical work, particularly on small parcels. The work required could triple--and so could the cost associated with it.	Distance would be changed to discretion of jurisdiction but should show on- and off-site drainage.
202.02 (a, 5)	The off-site disposal area often is unknown at the time the permit is issued. Cities could require a plan be done for the excavation site and disposal site, which would increase the developer's costs.	Agreed; feature is deleted.

Letter
Rod Herman, Building Industry Association
June 19, 1980

		STAFF RESPONSE
202.02 (a, 6&7)	To locate and show all vegetation would create an increased workload. Could add 25% to the cost. It is already on the grading plan. There is no need to add it to the erosion control plan.	Agreed; changed to show "vegetation types."
202.03/202.04	Too many references directing the developer to "give a description..." The plan shows exactly what will be done, in graphic terms. Asking that it be explained in writing, too, would add to the work done, and therefore to the cost. If it is shown, there is no need to describe it.	Wording clarified to remove implications of duplicative work.
202.02 (b)	The scale shouldn't be less than "x inch = y feet" unless approval is specifically given to other scale. It doesn't permit flexibility.	Agreed; section deleted.
202.04	Who determines when and on what basis a Final Erosion and Sediment Control Plan is needed?	The jurisdiction administering the ordinance.

Letter Rod Herman, Building Industry Association June 19, 1980		STAFF RESPONSE
202.07	There is no need for three separate bonds. Additionally, the bonds shouldn't require 100 percent coverage of the work to be done. The bond should simply be adequate to cover stabilization measures in the event the work isn't completed. On a large project, the work may cost nearly $2 million, whereas stabilization measures for such a project may cost no more than $60,000. If a developer halts a project in midstream, one cannot expect that the city would finish the project. The city would simply require that the area be stabilized. Therefore, the bond should cover enough to provide that stabilization, but certainly not 100 percent. 25% of the project cost should easily be adequate.	Separate bonds are simpler to administer and may effect cost savings to a builder. The bonds are for 100% of the cost to implement erosion control plans, <u>not</u> the cost of all improvements. Costs of remedial stabilization could easily exceed 100% of the cost to implement the erosion control plan.
204.03	It's unrealistic to require commencement of the work within 60 days. It is simply too tight a time frame for a developer to work within. There should be a provision that if a developer can't meet that time frame he can be granted an extension by administrative action. Otherwise, the developer would have to go through the entire application/approval process all over again.	Wording clarified to require commencement within 60 days of "scheduled" commencement.

Letter
Rod Herman, Building Industry Association
June 19, 1980

		STAFF RESPONSE
301.02	Due to what insurance companies consider an "implied liability or guarantee," civil engineers will not "certify" a plan. They <u>will</u> "sign," but not certify. The language should be changed accordingly.	Agreed.
402.01	This will generate more paperwork for the builder. This translates into more money for the homebuyer. Why should there be so much reporting done when in many cases a city-paid inspector is regularly inspecting the job--in some instances daily?	The reports constitute an important record of site conditions, during the construction period. They also trigger timely procedures to modify the erosion control plans where necessary. This could effect savings to the builder.

Letter
City-County Engineering Advisory Committee
Contra Costa County
June 25, 1980

STAFF RESPONSE

Actions 8.3 and 8.4 (Manual of Standards for Surface Runoff Control Measures)

Model Grading and Erosion Ordinance is far more complicated than it needs to be--especially all the specified procedures. Local agencies will not have the staff resources required to follow the proposed procedures, and most of the procedure details are unnecessary anyway. Some agencies may need a model ordinance, but a simple, straightforward one would be a far better example. Some agencies already have what they feel is an effective ordinance (such as Uniform Building Code, Chapter 70) and they are only seeking technical guidelines.

The major issue here is not the lack of model ordinance or technical guidelines, but the practical problem of enforcement--assuring that the erosion control measures are really done during construction.

As CCEAC notes, the "major issue...is...the practical problem of enforcement." The Model Ordinance addresses the problem by specifying procedures whereby effective enforcement may be had. It is the lack of such procedures in existing ordinances which give rise to the "practical problem of enforcement."

8.4 ADOPT ORDINANCES

	STAFF RESPONSE
Letter Dudley Day, North Coast Builders Exchange July 8, 1980	
The North Coast Builders Exchange strongly opposes the May 1980 Draft of 'Surface Runoff Control Measures'. It, in our opinion is Regulatory overkill!	
We question the need for this type of expanded regulation upon builders and developers when it is obvious that the real heart of the problem lies with job design, engineering, agency pre-planning and effective project inspection practices.	The Model Ordinance addresses these concerns, directly or indirectly.
Nearly all medium and large sized projects have approved grading plans which are engineered. The engineer, a highly qualified professional, should be the point of entry for sedimentation control and surface runoff regulation. A simple 'performance standard' in the design criteria for this type of protection should be reflected into the grading plan by the engineer <u>when needed</u>.	Performance standards are difficult to enforce and apparently more costly to implement.
<u>Most</u> projects in the construction phase do not create serious problems that cannot be anticipated in the planning stage.	Construction sites typically generate 15 - 20 times the background level of sediment. The Manual and Model Ordinance are designed to ensure that anticipated problems are effectively dealt with during the planning stage.
The inflow from the watershed is increased causing downstream erosion. This effect is cumulative in areas where development is happening at a rapid rate. The problems are often created by inadequate pre-planning of development by Public Agencies. Appendix B of your Technical Memorandum #59, dated May 15, 1980 confirms my statements.	It is true that development changes watershed hydrology and can cause downstream erosion and other problems. Many of the control measures in the Manual such as vegetating exposed soils and grassed waterways, can mitigate downstream problems by increasing on-site infiltration.

Letter
Dudley Day (con't)

The article about San Ramon Creek has nothing to do with an adjacent development under construction, but speaks to increased runoff, tremors and apparent channelization into Geraldines property. Pre-planning for development and proper watershed engineering practices would have solved this problem--NOT THE "erosion and sedimentation plan" provided by the developer of Creekside Glen Apartments covering the construction period.

The other six pictorial examples with the exception of Wildcat Creek in Richmond show no reference whatsoever to problems created by projects under construction. Most examples appear to be road damage due to slides which are under the care, custody and control of the Public Agencies, or in completed projects such as the occupied shopping center in Belmont, or the hillside collapse in San Rafael in a built-up area, or a poorly designed retaining wall in the Creekside Townhouse subdivision.

I urge you to carefully read these accounts in Appendix B, and consider the erroneous implications presented. IS THIS THE BASIS FOR THE ENTIRE STUDY AND ITS CONCLUSIONS?

Encouraging over-regulation of builders, large and small by recommending cities and counties to adopt the suggested codes and guidelines is ill advised in our opinion.

We recommend that before you approve this study and suggest others adopt it, that an in-depty look be taken at the following factors and questions:

STAFF RESPONSE

Several of the examples refer generally to surface runoff and erosion as a contributor to hillside problems. Severa of these projects could have benefitted from erosion control after project completion as well. In Technical Memorandum 59 under Table 7, are several documented cases of damage from construction erosion. County Public Works Departments routinely spend millions of dollars annually to repair hillside damage. Much of this would be unnecessary if cost-effective controls had been installed at the beginning.

Letter Dudley Day (con't)	STAFF RESPONSE
1. Is the BASIS for the study valid with regard to primary causes of pollution, erosion and sedimentation problems?	Eight of the nine Bay Area counties identified erosion and sedimentation as a major water quality problem in their problem analysis conducted between 1976 and 1978.
2. Would improved engineering review during plan check decrease problems during and after construction?	Model Ordinance is designed to facilitate effective review of plans for erosion and sediment control.
3. Would area wide planning and pre-planning do more to decrease the problems than increasing constraints on the builder during construction	Erosion originates on construction sites and must be controlled there. Area-wide planning will not solve this problem.
4. Would special training for Building and Site Inspectors decrease the likelyhood of the problem?	Task 2 in ABAG's 1980-81 Work Program provides for Inspector and developer training.
5. Many areas in the US with a high potential for erosion damage have probably solved these problems cost effectively and simply thru efficient management and engineering practices. These solutions should be sought out for study as an alternative to costly new plans, bigger staffs and added fees for development.	Research for Model Ordinance included review of local, State and some out of state grading ordinances. Many jurisdictions in other states have adopted erosion control programs similar to or more stringent than what is proposed here. Many other areas are now considering similar actions.
In the event you do not heed our plea and find it necessary to approve the proposal--- We encourage you to:	
1. Make all the changes recommended by the Northern Calfironia Building Industry Association which were submitted to you at the June 19th, 1980 hearing.	See responses, Building Industry Association - Northern California letter, June 18.
2. Modify the requirement to apply only to medium and large sized projects, except in areas where previous engineering studies have determined that major land disturbances would cause serious erosion and sedimentation problems in watercourses.	See response to Comment by BIA - Northern California on Sec 201.02(b) of Model Ordinance. The minor permit requirement in the Model Ordinance has been extended to apply to flat project sites up to 5 acres (instead of 30,000 sq. ft.)

	STAFF RESPONSE
Letter Dudley Day (con't) (Page 22 of Technical Memorandum #59 infers that your studies are incomplete for smaller developments).	ABAG will be studying control measures for small construction projects in more detail in the 1980-81 work program.

Public Hearing Exeuctive Board, ABAG July 17, 1980	STAFF RESPONSE
Testimony	
Fred Angelino, Bay Area Council of RCDs. RCDs should be the lead responsible agency for controlling construction site erosion through the review of erosion control plans and the making of recommendations to projects. The RCDs have been doing this for a number of years.	RCDs have no enforcement authority and often do not include major urban areas.

8.4 ADOPT ORDINANCE

	STAFF RESPONSE
Letter Daniel Van Voorhis, Coalition of Labor and Business July 9, 1980	
We have distributed copies of the plan to major builders and project engineers doing business in the Bay Area for review and comment.	
Time has not allowed us to prepare detailed comment, but the following preliminary questions or concerns have been identified:	
1. Time: Adequate time to review the document/ordinance/plan/has not been provided to allow meaningful study and comment by the public or the private sector.	See response to COLAB letter of June 18.
2. Need: There is uniform doubt as to whether there is, in fact, the need for the severity of the regulations proposed. We note that the proposed controls assume the "worst case" when, of course, the worst case may not be presented in any, if not most, situations.	The Model Ordinance presents a wide range of approaches. This is a necessary facet of such a model. Each jurisdiction would use the ABAG Model Ordinance as a guide in reviewing existing regulations. Local jurisdictions would revise existing regulations in response to local needs.
(What is the environmental problem, and are the regulations proposed feasible solutions to the environmental problem?)	Local jurisdictions and ABAG staff have construction-related erosion as a major water-quality problem. The Model Ordinance presents effective procedures for controlling the problem.
3. Single-Purpose Planning: There is a concern that the proposed regulations represent yet another illustration of the dangers of single-purpose planning where environmental purism or technical excellence is given priority over other social and economic concerns (including the affects (sic) on local control, the affects on housing costs and the cost-effectiveness of the controls);	The proposed Plan Amendment lists Institutional/Financial, Economic and Social as well as Environmental Impacts for implementation of an effective erosion control ordinance.

Letter Daniel Van Voorhis (con't)	STAFF RESPONSE
4. Jurisdiction: There is considerable confusion over the legal mandate which apparently requires a plan be prepared and the legal affect of the plan once adopted. Must the Bay Area adopt this plan and (if so) what affect will this plan have on existing local regulations? Are these controls guidelines, or are they laws?	Adoption of revised ordinances or use of the Manual as a handbook is voluntary for each jurisdiction.
5. Cost-Effectiveness: Related to the "single-purpose planning" concern is an overriding concern that the regulations are not "cost-effective" in that the degree of environmental improvement accomplished is not worth the high degree of regulation. We note with concern that the regulations call for "Best Available Control Technology" (BACT), whereas, to date, the balance of the existing Environmental Management Plan calls for "Reasonably Available Control Technology" (RACT). The differences (in terms of cost) are massive.	See Technical Memorandum No. 59. There is no parallel between Best Management Practices and BACT/RACT.
6. Inflexibility: We note that the proposed regulations assume the "worst case" and proceed to propose uniform (regionwide) regulations to control that worst case. While we agree that there may be some instances where the severity of the proposed controls may make sense, we know that the "worst case" is not always presented. We believe that there is simply no substitute for the case-by-case approach contemplated by the California Environmental Quality Act and the state land-use control legislation.	See responses above.

In sum, even if there were time to review the technical aspects of the plan, the above-stated "policy" questions require immediate attention.

Letter
City-County Engineering Advisory Committee
Contra Costa County
June 25, 1980

Action 8.5 (Other Best Management Practices)
Manual of Standards, Part III, Public Works Practices is unnecessary. The stated basic principle, "To provide water quality benefits without regard to other benefits, uses, or objectives" is too narrow of an approach which produces virtually useless proposals.

STAFF RESPONSE

Most public works program practices currently in use have been designed without specific consideration of the costs or benefits to surface, receiving water bodies. Typically, aesthetics, safety and public health, and fiscal constraints have been the issues taken into account. While these considerations are certainly important, water quality objectives ought to be included in the decision making process. Since water quality costs and benefits have been neglected in the past, they are the focus of the discussions of Best Management Practices for Public Works in the Manual of Standards. The other issues have received ample attention already and further effort in their analysis would dilute the time and resources available to address water quality aspects.

Using water quality objectives alone to formulate public works programs would be a review approach indeed. The public works BMPs are offered for incorporation into the decision making process to improve the effectiveness of public works services supported by tax dollars. They are not intended to represent final decisions based upon all relevant municipal considerations. Such decisions must arise from within each responsible agency.

8.5 Implement Other BMPs

Public Comment, Telephone
Mary Benard and Richard Whitsel, S.F. Bay Regional Water Quality Control Board
May 27, 1980

Action 8.5 - Implement other Best Management Practices, mentions under general description: "Additional practices other than 8.4 and 8.5 would be implemented...". The reference to 8.5 should be removed.

STAFF RESPONSE

Agreed.

Public Hearing
Executive Board, ABAG
July 17, 1980

Testimony

Fred Angelino, Bay Area Council of RCDs. RCDs would be the most effective at getting implementation of other BMPs. Any other agency would not have on board persons with the expertise, experience and knowledge necessary to do the job right. The Council has this expertise, but would need additional funding to expand their present program.

STAFF RESPONSE

The RCDs are listed as one responsible agency. Some control measures appear to be beyond RCD's field of expertise, e.g., street sweeping, litter control. Other agencies with the necessary expertise are, therefore, listed.

Further, other agencies could obtain technical assistance from the same source as the RCDs, namely the U.S. Soil Conservation Service.

Letter
Rod Diridon, Santa Clara County Supervisor
June 19, 1980

STAFF RESPONSE

The County Planning Department staff recommends support of the 1980 Bay Area Water Quality Management Plan with some minor reservations.

The minor reservations relate to Appendix B. There is some question as to the adequacy of the problems listed for the Loma Prieta Resource Conservation District and the Evergreen Resource Conservation District. Task 26 of this year's surface runoff program is not completed yet. The purpose of the task is to identify the water quality problems in these two districts outside the urban areas and on the urban fringe. There is some indication that some problems may be overstated and some may not be included. The findings of Task 26 should be compared to Appendix B to be sure the two documents are consistent.

The comment is noted.

Letter
City-County Engineering Advisory Committee
Contra Costa County
June 25, 1980

STAFF RESPONSE

Action 8.6 and 8.7 (Watershed Problems)
Unnecessary. Resource Conservation Districts and local agencies are already aware of their problem areas and are attempting to deal with them.

Resource Conservation Districts and local agencies are becoming more aware of the problems and are seeking help for implementation of solutions.

Actions 8.6 and 8.7 will accelerate problem identification and improvement/protection of critical watersheds.

Official designation of critical areas under the 208 plan will make these areas eligible for future federal funding assistance.

8.6 IDENTIFY CRITICAL WATERSHED

	STAFF RESPONSE
Letter City-County Engineering Advisory Committee (Contra-Costa) June 25, 1980	
Actions 8.6 and 8.7 (Watershed Problems) Unnecessary. Resource Conservation Districts and local agencies are already aware of their problem areas and are attempting to deal with them.	Resource Conservation Districts and local agencies are becoming more aware of the problems. Action 8.6 and 8.7 will accelerate problem identification and improvement/protection of critical watersheds. Official designation of critical areas under the 208 plan will make these areas eligible for future federal funding assistance.
Letter Thomas S. Hargis, City Engineer - Petaluma July 3, 1980	
The City has had verbal discussion with Steve Goldman of ABAG and with Mr. Brenel of the U. S. Dept. of Agriculture's Sonoma Valley Resource Consevation District regarding the Bay Area Water Quality Management Plan. This letter is to insure that our verbal discussions are incorporated into your Record of Public Hearings. As discussed with Mr. Brenel, please see Page B-4, the entry under "Resource Conservation District - Petaluma - Problem Category: Construction Site Erosion - Location: City of Petaluma - Area Affected: 1,250 acres. As discussed with Mr. Brenel, the number of acres of 1,250 is incorrect. This is the area surrounding the City of Petaluma which would be more appropriately entered under "Isolated Cases of Ranchette Erosion." The area that would be considered within the City of Petaluma, if any, would be a tremendously smaller number than 1,250 acres.	The "Rural and Urban Fringe Problem Areas" table (New Table 5.1) has been revised. Opposite the description of erosion problems in the Petaluma RCD, the location now reads "Urban fringe around City of Petaluma" and "Isolated cases of ranchette erosion."

8.6 IDENTIFY CRITICAL WATERSHEDS

Public Hearing
Executive Board, ABAG
July 17, 1980

Testimony

Fred Angelino, Bay Area Council of RCDs, stated that identification of critical areas is only the first part of solving the total erosion problem. The local RCDs are familiar with these critical areas and with their expertise on the application of BMPs are best suited to be the responsible agency. With additional funding, they could expand their present program.

STAFF RESPONSE

See response to letter from County-City Engineering Advisory Committee of June 25, 1980.

8.7 ADOPT WATERSHED PROTECTION PLANS

Public Hearing
Executive Board, ABAG
July 17, 1980

Testimony

Fred Angelino, Bay Area Council of RCDs, felt that RCDs should be the sole responsible agency for this action. RCDs would be most effective at overseeing these plans since they have had the most extensive experience in this area.

STAFF RESPONSE

See response to testimony by Angelino at Executive Board Hearing of July 17, 1980 in re. 8.5.

12.8 Amend
Spill Plans

Joanne Angvick
League of Women Voters
May 15, 1980

Proposed Amendment to the Water Quality Management Plan, Environmental Impact Report

12.8 Suggest expression in figures to include a spill of a solid

STAFF RESPONSE

Insufficient technical data exists to recommend minimum solids spill for containment.

12.9 Regional
Spill
Response
Plan

Public Hearing
Work Program Coordination Committee
May 15, 1980

Testimony

Michael Rugg, California Fish and Game. Rugg noted that as member of Technical Advisory Committee, he had been impressed by the quality of the water quality program work. He recognized a great need for a Regional Chemical Spill Response Plan. Presently, the method of handling spills varies between jurisdictions and the potential for damage to aquatic habitats and wildlife is great. He concurred with staff recommendations.

STAFF RESPONSE

No comment necessary

RPC Ad Hoc Committee Meeting
ABAG Studio Conference Room
June 14, 1980

Testimony

A regionally-coordinated chemical spills response plan, is urgently needed for the Bay Area. This would provide for proper training in spills handling, coordination of equipment between different departments and mutual aid between jurisdictions. Without a coordinated response plan, costly damage could occur. An example was given of a chemical spill in Los Angeles. It would have cost $8,000 to clean in place, but instead the fire department washed it down into the storm sewer. The resultant clean-up cost $138,000. Locally, a tanker truck spilled 6,000 gallons of soybean oil. The fire department tried to get 2 loads of sand for the clean-up and ran into incredible red tape and delays. This should not have happened. (Gary Tompkins, private consultant)

RPC response: The proposed action 12.9 merits adoption. This should be closely coordinated between the various County Offices of Emergency Services (Eastman, Bort)

STAFF RESPONSE

No comment necessary.

Public Hearing
Executive Board, ABAG
June 19, 1980

STAFF RESPONSE

Testimony

Robin Breuer, State of California Hazardous Materials Division, expressed the need for a spill response program such as the one outlined in the Water Quality Plan Amendments. Local agencies need support in identifying spills, transporters responsible for the spill, agencies available to help confine the spill and formulating a response plan to clean up and dispose of the spill in an appropriate area. The seriousness of the spill to humans as well as fish and game should be considered.

No comment necessary.

Gary A. Thompkins, private citizen of Oakland, commended the staff for truly regional planning in the sphere of hazardous and polluting spill response. To his knowledge none of the other Councils of Governments in the State had addressed this problem yet. He enthusiastically encouraged adoption.

No comment necessary.

12.9 Regional Spill Response Plan

Letter
City-County Engineering Advisory Committee
Contra Costa County
June 25, 1980

Action 12.9 (Regional Chemical Spill Plan)
Unnecessary. Countywide spill plans are appropriate to handle the situation, and there is no need for them to be exactly the same.

STAFF RESPONSE

County Offices of Emergency Services do have spill plans; however, they cover only the unincorporated areas in the county. Local fire departments have often responded inappropriately. Inconsistencies among plans have led to instances of improper clean-up of spills. Most existing spill plans do not incorporate water quality considerations.

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